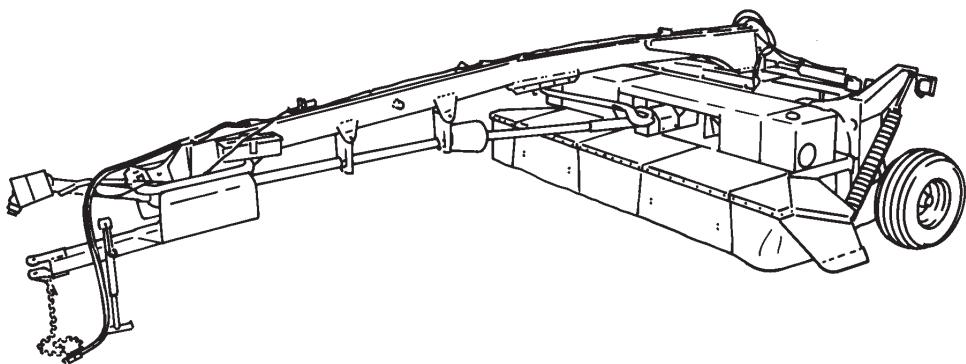


OPERATOR'S MANUAL

H7450

H7550

Discbine® Mower-Conditioner



Part number 84421080

4th edition English

May 2011

Replaces part number 84398496



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1 - GENERAL INFORMATION

Note to the owner

This manual contains information concerning the adjustment and maintenance of your new equipment. You have purchased a dependable machine, but only by proper care and operation can you expect to receive the performance and long service built into this equipment. Please have all operators read this manual carefully and keep it available for ready reference.

Your NEW HOLLAND AGRICULTURE dealer will instruct you in the general operation of your new equipment. (Refer to the 'Delivery Report' at the back of this manual.) Your dealer's staff of factory-trained service technicians will be glad to answer any questions that may arise regarding the operation of your machine.

Your NEW HOLLAND AGRICULTURE dealer carries a complete line of genuine NEW HOLLAND AGRICULTURE service parts. These parts are manufactured and carefully inspected to insure high quality and accurate fitting of any necessary replacement parts. Be prepared to give your dealer the model and product identification number of your new equipment when ordering parts. Locate these numbers now and record them below. Refer to the 'General Information' section of this manual for the location of the model and product identification numbers of your machine.

PLEASE RECORD THE FOLLOWING INFORMATION

Model _____

Product Identification Number (PIN) _____

Date Purchased _____

Header Width (As Applicable) _____

Engine Model (As Applicable) _____

Engine PIN (As Applicable) _____



This is the safety alert symbol. It is used with and without signal words to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

⚠ WARNING

Illustrations in this manual may show protective shielding open or removed to better illustrate a particular feature or adjustment.

Replace all shields before operating the machine.

Failure to comply could result in death or serious injury.

W0012A

IMPROVEMENTS

CNH America LLC is continually striving to improve its products. We reserve the right to make improvements or changes when it becomes practical and possible to do so, without incurring any obligation to make changes or additions to the equipment sold previously.

Foreword - Ecology and the environment

Soil, air, and water are vital factors of agriculture and life in general. When legislation does not yet rule the treatment of some of the substances which are required by advanced technology, common sense should govern the use and disposal of products of a chemical and petrochemical nature.

NOTICE: *The following are recommendations which may be of assistance:*

- Become acquainted with and ensure that you understand the relative legislation applicable to your country.
- Where no legislation exists, obtain information from suppliers of oils, filters, batteries, fuels, antifreeze, cleaning agents, etc., with regard to their effect on man and nature and how to safely store, use and dispose of these substances.
- Agricultural consultants will, in many cases, be able to help you as well.

Helpful hints

- Avoid filling tanks using cans or inappropriate pressurized fuel delivery systems which may cause considerable spillage.
- In general, avoid skin contact with all fuels, oils, acids, solvents, etc. Most of them contain substances which may be harmful to your health.
- Modern oils contain additives. Do not burn contaminated fuels and or waste oils in ordinary heating systems.
- Avoid spillage when draining off used engine coolant mixtures, engine, gearbox and hydraulic oils, brake fluids, etc. Do not mix drained brake fluids or fuels with lubricants. Store them safely until they can be disposed of in a proper way to comply with local legislation and available resources.
- Modern coolant mixtures, i.e. antifreeze and other additives, should be replaced every two years. They should not be allowed to get into the soil but should be collected and disposed of properly.
- Do not open the air-conditioning system yourself. It contains gases which should not be released into the atmosphere. Your NEW HOLLAND AGRICULTURE dealer or air conditioning specialist has a special extractor for this purpose and will have to recharge the system properly.
- Repair any leaks or defects in the engine cooling or hydraulic system immediately.
- Do not increase the pressure in a pressurized circuit as this may lead to a component failure.
- Protect hoses during welding as penetrating weld splatter may burn a hole or weaken them, allowing the loss of oils, coolant, etc.

Electro-magnetic interference (EMC)

Interference may arise as a result of add-on equipment which may not necessarily meet the required standards. As such interference can result in serious malfunction of the unit and/or create unsafe situations, you must observe the following:

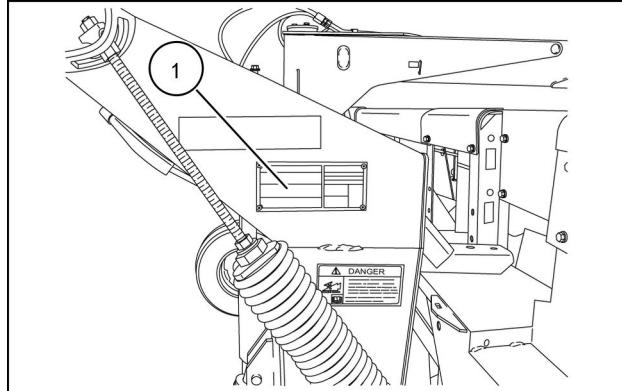
- The maximum power of emission equipment (radio, telephones, etc.) must not exceed the limits imposed by the national authorities of the country where you use the machine.
- The electro-magnetic field generated by the add-on system should not exceed 24 V/m at any time and at any location in the proximity of electronic components.
- The add-on equipment must not interfere with the functioning of the on board electronics. Failure to comply with these rules will render the NEW HOLLAND AGRICULTURE warranty null and void.

Product identification

NOTE: On this equipment, left and right are determined by standing behind the unit, looking in the direction of travel.

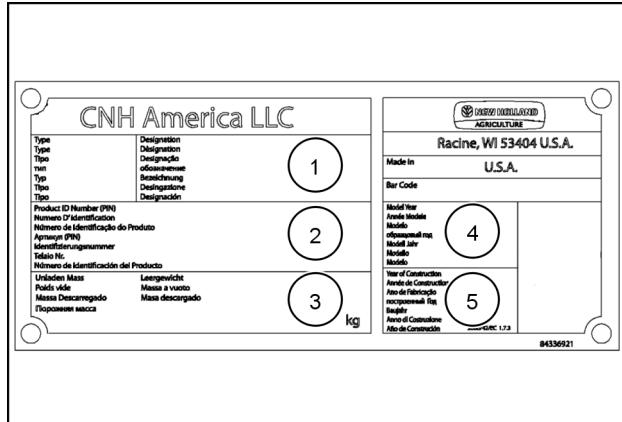
Product Identification Number (PIN)

The PIN plate (1) for the disc mower-conditioner is located on the right-hand side of the trail frame.



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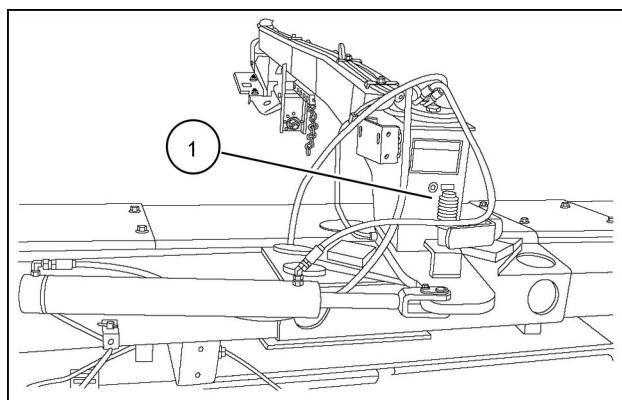
- (1) Model
- (2) PIN number
- (3) Weight
- (4) Model year
- (5) Year of construction



76107631A 2

In addition, a PIN plate is installed on the rear of the tongue at (1). This PIN may be required when ordering parts that attach to the tongue.

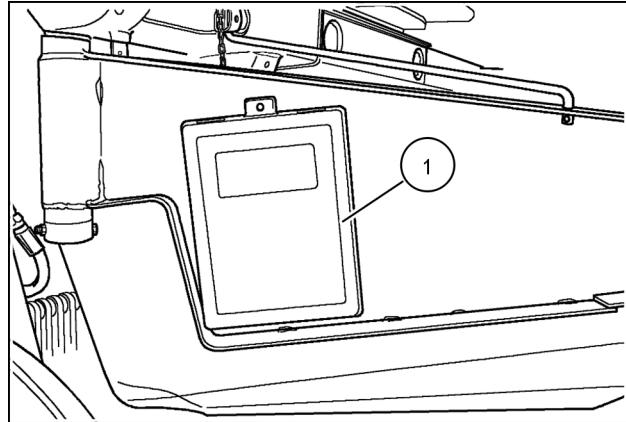
Give your dealer the model and PIN of your disc mower-conditioner when ordering parts. Always order genuine factory parts from your authorized dealer.



93113257 3

Manual holder

A manual holder (1) is mounted on the left side window shield, and provides a readily accessible storage location for this manual.

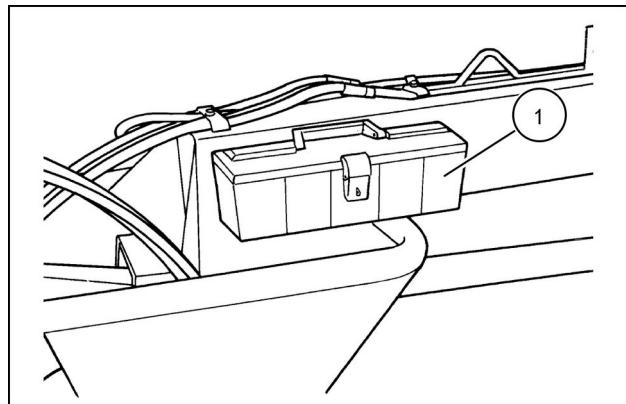


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Tool box

A convenient toolbox (1) is provided for storage of tools, a grease gun, and spare cutter bar parts. Use a hairpin cotter to keep the toolbox lid closed.

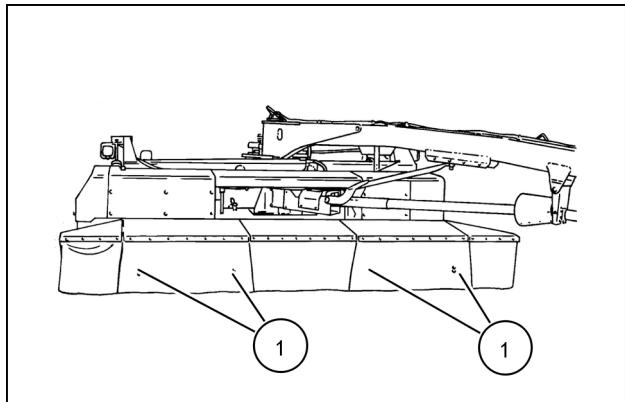
The toolbox can be removed from the unit by opening the lid, and removing the hairpin cotter clipped inside. Tip the toolbox up off of the support bracket. When reinstalling the toolbox, position the lip on the back over the top of the bracket, and tip the toolbox down over the clip. Reinstall the hairpin cotter to retain the toolbox.



1431-1-27N 5

Shielding

NOTE: Unhook the cutter bar shield skirt spring snaps (1) at skirt overlaps before either of the front shields are raised. Be sure to reattach them after before operating the machine.



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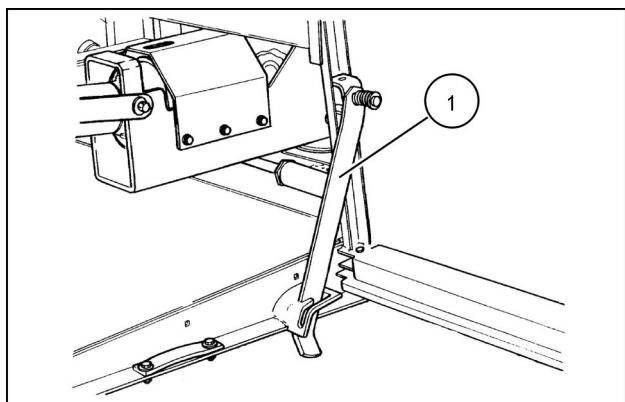
The front shields are automatically held in place by a lever (1). Move the lever sideways to release and lower the front shields.

NOTICE: Close shield prior to operating machine to prevent damage to the shield.

⚠ WARNING

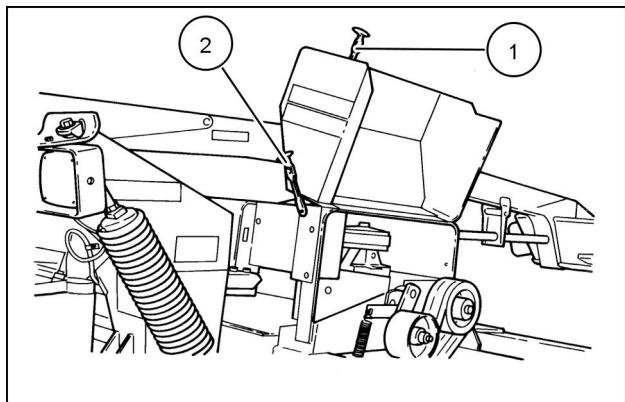
Flying objects! Machines with rotary discs can fling foreign objects toward the operator. Keep all skirts and shields in place. Failure to comply could result in death or serious injury.

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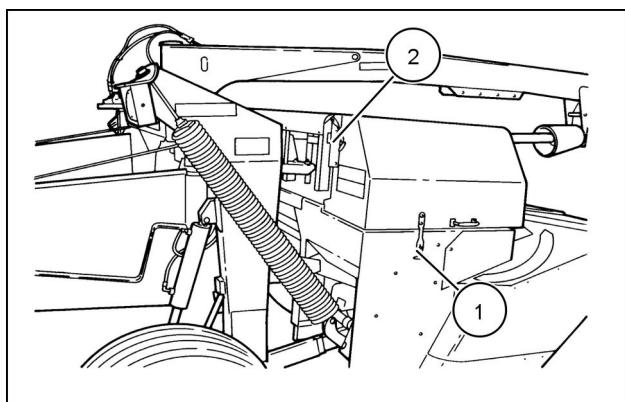
4899-05RN 7

The right side shield can be lifted up by releasing a rubber strap (1) and pivoting the shield upwards. The shield can be held open with a rubber strap (2) to prevent the wind from blowing the shield closed.



19991330N 8

To close the shield, release the rubber strap (2), swing the shield shut, and rehook the rubber strap (1).



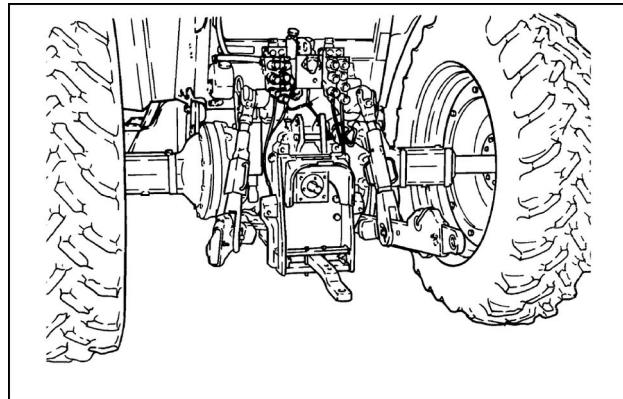
19991331N 9

Product overview

⚠ WARNING

Flying objects! Machines with rotary discs can fling foreign objects toward the operator. The use of a tractor with an enclosed cab is recommended when operating a rotary disc cutting machine. Failure to comply could result in death or serious injury.

W0191A



97-1533N 1

1. **1000 RPM PTO.**
2. **67 kW (90 Hp)** minimum PTO hp.
3. ASAE standard hitch and PTO dimensions conforming to category 2 or 3 specifications.

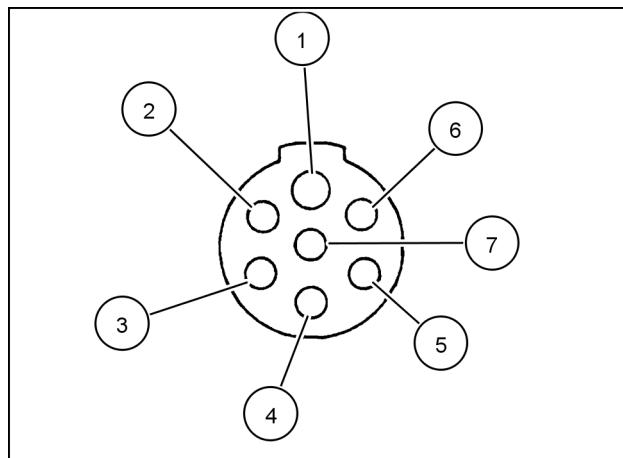
NOTE: For tractors with a stepped, or a bent draw-bar, the bend must be positioned to meet ASAE hitch and PTO specifications. PTO separation or bottoming out could occur if these specifications are not followed.

4. Two remote hydraulic circuits with a minimum of **10342 kPa (1500 psi)**, and a maximum of **19305 kPa (2800 psi)**. One of the circuits must be a two-way circuit for the tongue swing cylinder.
5. Adequate ballast, wheel spacing, and tire inflation to stabilize the tractor on hillsides.
6. For proper light function, this unit must be connected to a tractor incorporating an SAE standard 7-pin conductor electrical socket which conforms to **SAE J560**. If your tractor does not have a 7-pin conductor electrical socket, obtain a connector socket from your Dealer.

Installing the socket

Use the tractor wiring diagram or, if necessary, use a test light to identify the tractor wires. Connect the wires to the socket as follows:

Pin	Connector ID	Attached To
1	White (WHT)	Ground wire, all lights
2	Black (BLK)	Not Used
3	Yellow (YEL)	Left side amber light
4	Red (RED)	Brake lights
5	Green (GRN)	Right side amber light
6	Brown (BRN)	Taillights
7	Blue (BLU)	Not used



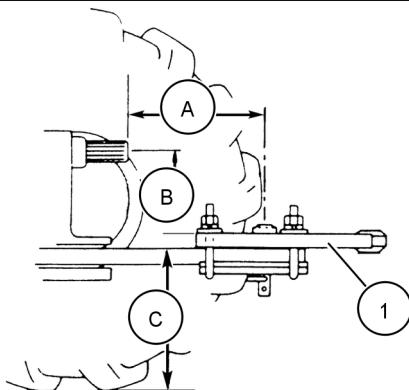
19987865 2

Tractor drawbar dimensions (standard tongue)

The disc mower-conditioner requires that the drawbar be adjusted to provide a distance of **609 mm (24 in)** from the end of the tractor PTO shaft to the center of the hitch point on the tongue; the same distance is necessary whether using an **1000 RPM PTO 1 - 3/8 in** or **1000 RPM PTO 1 - 3/4 in**. This dimension may be obtained in two ways:

Option 1

Adjust the tractor drawbar to a distance of **406 mm (16 in)** dimension **(A)** from the end of the tractor PTO shaft to the center of the drawbar hole, and install the drawbar extension **(1)** that comes with the disc mower-conditioner. The drawbar extension increases drawbar length by **203 mm (8 in)** to provide the **609 mm (24 in)** length required.



20106226N 3

Option 2

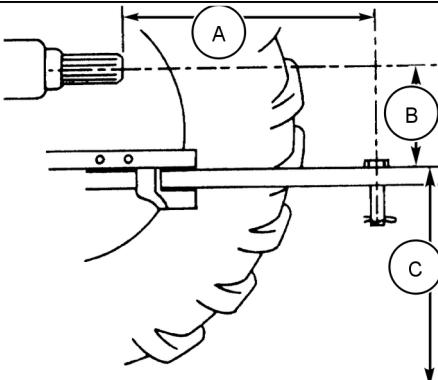
Some newer tractors may be equipped with drawbars that can be adjusted to a distance of **609 mm (24 in)** dimension **(A)** from the end of the tractor PTO shaft to the center of the drawbar hole. In this case, the disc mower-conditioner tongue may be connected directly to the tractor drawbar.

NOTICE: *Using a tractor with an incorrect PTO-to-hitch dimension can damage the front PTO and/or the tractor PTO drive line.*

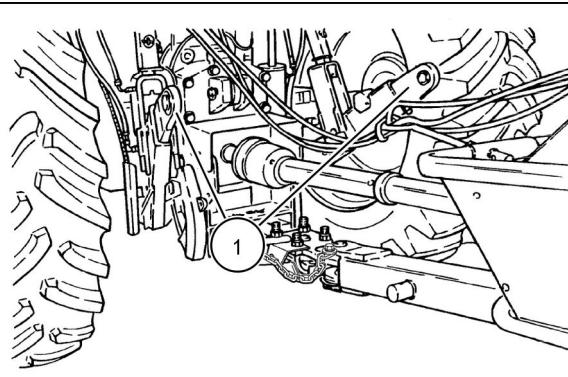
Ideally the top of the tractor drawbar should be **203 - 305 mm (8 - 12 in)** dimension **(B)** below the tractor PTO shaft. A drawbar positioned too low or high will affect the drive line angle, and may cause the PTO drive shaft to bottom out or pull apart in some conditions. Locate the drawbar directly below the PTO shaft. Clamp the drawbar so it cannot be moved from side to side.

The drawbar height above the ground dimension **(C)** should be **330 - 508 mm (13 - 20 in)** for tractors up to **125 Hp**, and **381 - 559 mm (15 - 22 in)** for tractors from **125 Hp** to **160 Hp**.

NOTICE: *If the tractor has a three-point hitch, adjust the lower links **(1)** either as high as possible or as low as possible, or remove them, to prevent them from hitting the tongue and PTO shaft when turning.*



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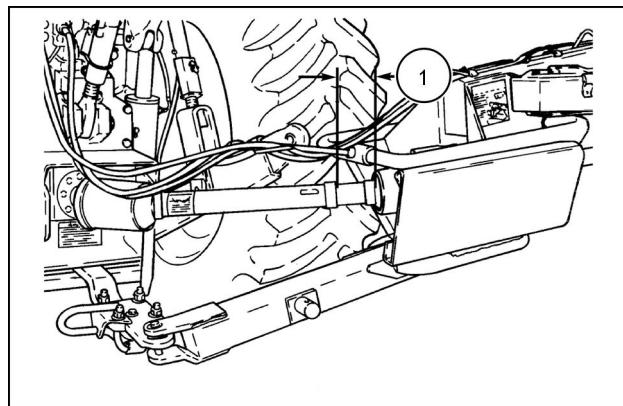
Depending on the tractor tire size and tread width setting, it may be necessary to install optional bumper extensions to prevent PTO shaft damage. The need for bumper extensions should be checked with the disc mower-conditioner attached to the tractor. While on level ground, turn the tractor in one direction until the tractor tire just contacts the tire bumper. Measure the distance (1) between the end of the outer guard and the location on the inner guard bell where the outer guard would contact when the PTO shaft is fully collapsed. If there is less than **127 mm (5 in)** clearance, bumper extensions must be installed.

NOTICE: *Watch the PTO guards while turning the tractor. Stop turning the tractor if the guards will bottom out to prevent damage to the PTO shaft.*

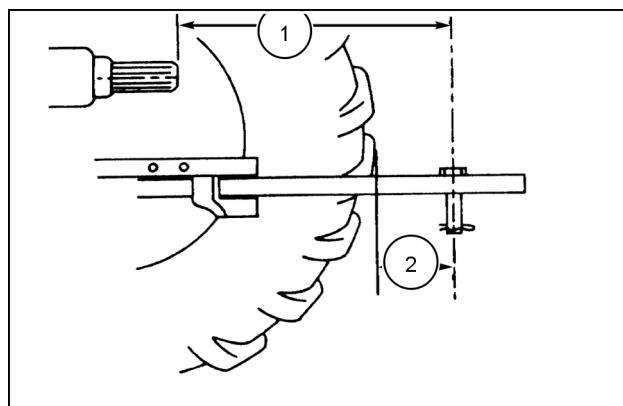
Always check the PTO shaft guard clearance the first time the disc mower-conditioner is connected to a different tractor, to prevent possible PTO shaft damage.

The tractor may be checked by itself to determine if bumper extensions may be necessary. After adjusting the drawbar to the required **610 mm (24 in)** length (1), measure the distance from the rear of the tractor tires to the center of the hitch point (2). If this distance measures **305 mm (12 in)** or greater; bumper extensions will be required. Check the PTO shaft guard clearance with the disc mower-conditioner attached to verify if bumper extensions are necessary.

NOTICE: *The primary PTO 80 °C CV joint may be damaged if bumper extensions are not installed on the disc mower-conditioner for tractors with drawbars extending 305 mm (12 in) or greater behind the tires.*



97-1532N 6



20106228N 7

Bumper extensions (standard tongue)

Bumper extensions (1) are required to limit the turn angle between the tractor and the pivot tongue disc mower-conditioner on tractors where the drawbar extends more than **305 mm (12 in)** behind the rear tractor tires (when set at **610 mm (24 in)** from end of tractor PTO shaft), to prevent bottoming out the primary PTO **80 °C** CV joint causing failure.

Install the bumper extensions by positioning them with the angled end (2) forward, and centered on the existing bumper frame. Secure the bumper extensions using the **5/8 in x 1 1/4 in** bolts, washers and nuts supplied; torque the hardware to **190 N·m (140 lb ft)**.

After installation, attach the tractor to the unit, and turn the tractor sharply until the rear tractor tire is close to the bumper extension. If the tractor tire will contact the forward edge (3) of the bumper extension, reposition the bumper extensions to the forward position to prevent possible damage to the tractor tires.

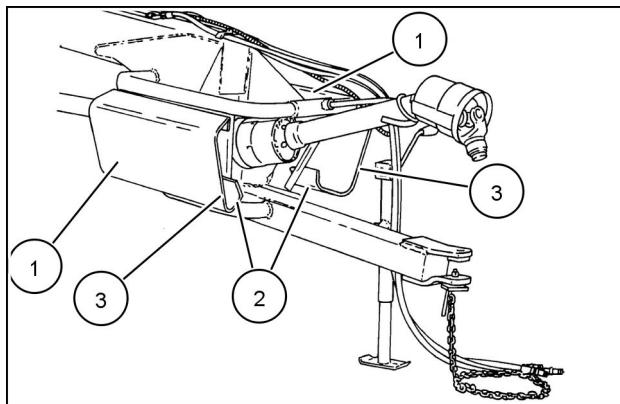
Attaching disc mower-conditioner to tractor with drawbar extension (standard tongue only)

NOTICE: Attach the drawbar extension solidly to the tractor drawbar, and clamp the drawbar securely to limit side to side movement. Pivoting the tongue will put heavy side loads on the tractor drawbar.

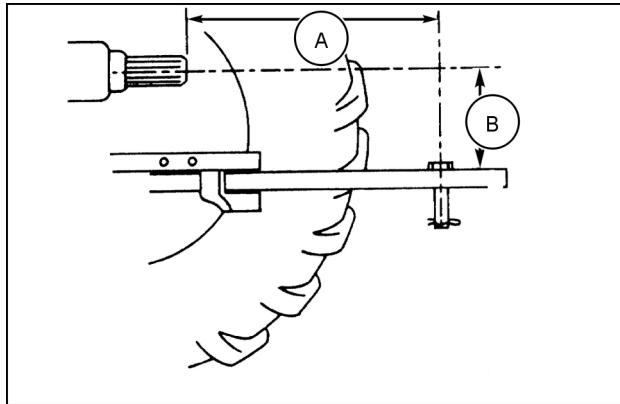
NOTICE: The drawbar **MUST BE** positioned to **610 mm (24 in)** (A) to allow for sharp turns and to prevent damage to the primary PTO shaft. Extend the drawbar or install the drawbar extension to obtain this dimension.

NOTE: Measure from the top of the drawbar to the center of the PTO shaft. Install the extension on the top or bottom of the drawbar as required so that the top of the drawbar extension is **203 - 305 mm (8 - 12 in)** (B) from the PTO shaft centerline.

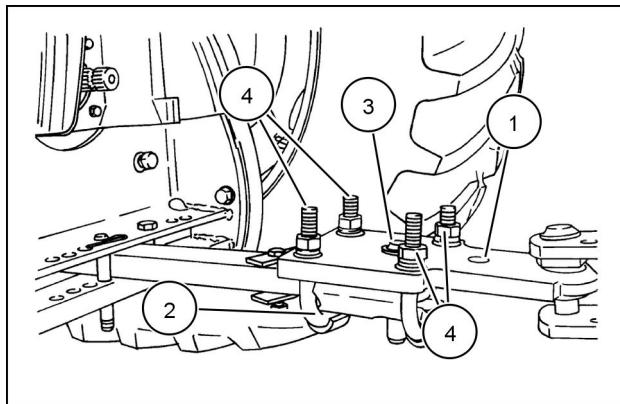
Install the drawbar extension (1) and clamp (2) on the drawbar. Install the drilled pin (3) down through the FRONT hole in the extension and the rear hole in the drawbar. Install hairpin cotter, as close as possible to the bottom of the drawbar. Tighten the **5/8 in** nuts (4) evenly to **190 N·m (140 lb ft)** torque.



4896-03N 8



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1431-2-57N 10

Installing PTO on standard tongue

Attach the PTO by pulling back on the slide collar (2), and slide the PTO forward on the tractor shaft until the pins engage in the tractor PTO shaft groove. The collar will slide forward automatically locking the PTO shaft onto the tractor shaft.

NOTE: The yoke where the collar slides must be free of paint and rust and must be kept lubricated with oil for the collar to slide freely.

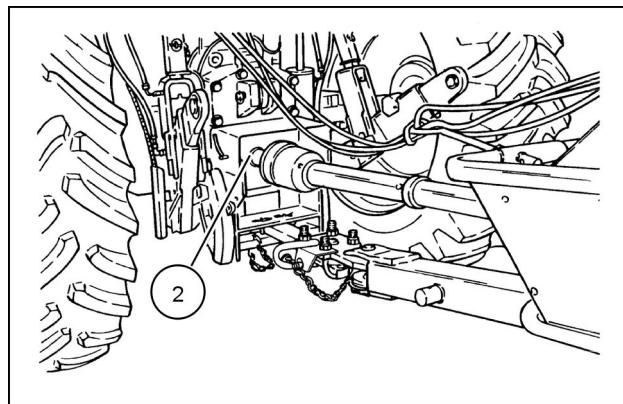
NOTICE: Models with standard tongue only: The tractor end of the primary PTO shaft has a CV joint which is heavy. Be careful when handling it, dropping it could cause personal injury and damage the CV joint.

Check to make sure the PTO is locked on the tractor shaft. To remove, pull back on the collar to unlock the pins and remove the PTO.

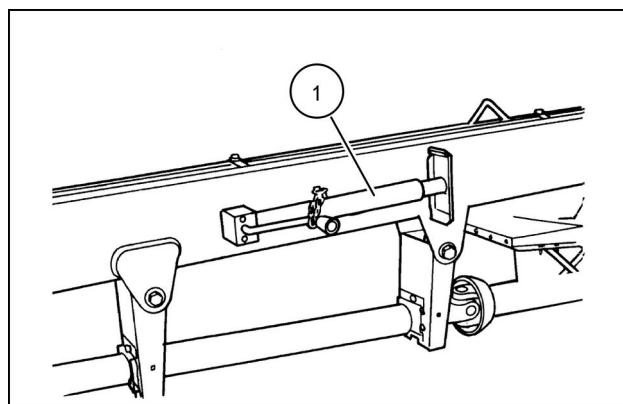
Jack assembly (standard tongue)

After attaching the disc mower-conditioner to the tractor, retract the jack by turning the hand crank counterclockwise. Pull the pin and remove the jack. Store the jack (1) on the side of the tongue. Secure the jack with the pin.

NOTE: To prevent the jack from unwinding during use, loop the chain around the handle before inserting the pin.



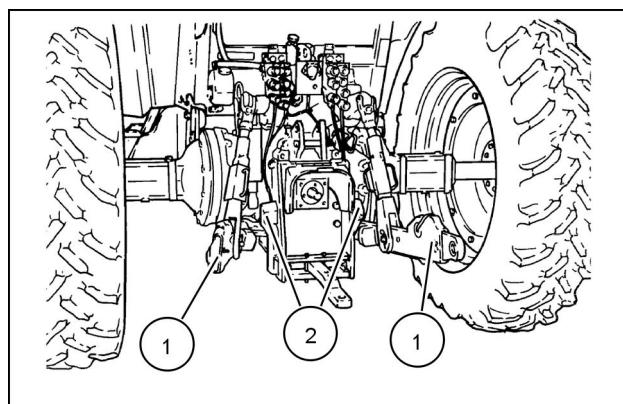
1431-2-02RN 11



1431-1-29N 12

Preparing the tractor and disc mower conditioner (2- point swivel hitch tongue)

The swivel hitch pivot tongue for the disc mower-conditioner requires that the tractor's three-point hitch be properly adjusted for correct operation. Prior to attaching the disc mower-conditioner to the tractor, ensure that the lower lift arms (1) are leveled side to side, are not free to float vertically, and are secured against side to side movement. Adjust the sway blocks (2), check chains or stabilizer links to provide a minimum lift arm spacing of **826 mm (32 - 1/2 in)** for Category 2 or 3N hitches, or **965 mm (38 in)** for Category 3 hitches. Slide the drawbar in to its retracted position, or remove it from the tractor to avoid possible interference with the disc mower-conditioner PTO shaft.



97-1533N 13

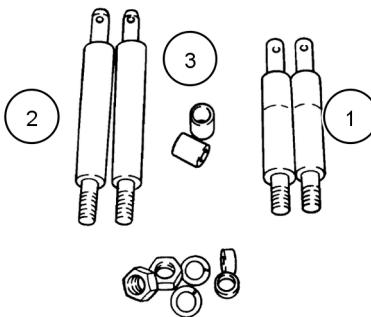
The swivel hitch pivot tongue disc mower-conditioner is shipped with a set of lift pins. The shorter pins (1) are used on the disc mower-conditioner for tractors equipped with Category 2 or 3N hitches, the optional longer pins (2) are used with Category 3 hitches. Bushings (3) for use with Category 3 & 3N hitches, are also supplied.

NOTE: If the disc mower-conditioner is equipped with a Category 3 or 3N hitch, the longer pins are available from your authorized dealer parts department.

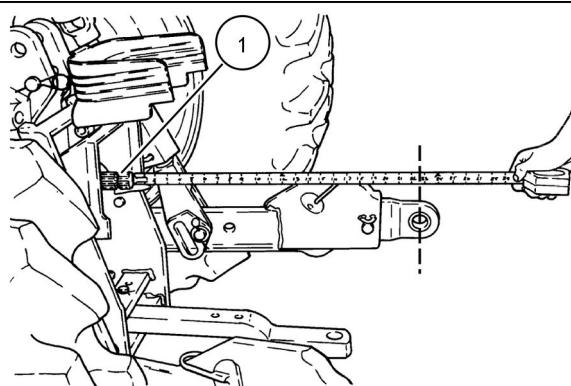
If the disc mower-conditioner is to be used with a quick hitch, it will be necessary to purchase a quick hitch bushing kit. This kit is available from your dealer's parts department.

In order to ensure a sufficient amount of PTO shaft overlap on a wide variety of tractor hitches, the disc mower-conditioner is equipped with two pin mounting positions. To determine the correct pin position, it is necessary to measure the distance between the end of the tractor PTO shaft (1) and the lower link ends, with the lower links positioned level.

NOTE: If using a quick hitch, measure from the end of the tractor PTO shaft to the lifting points on the quick hitch, with the lower links positioned level.



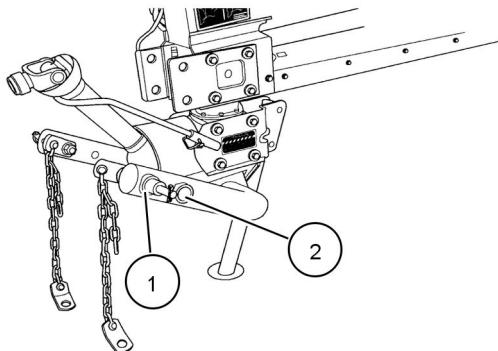
97-1534N 14



97-1535N 15

If the distance is less than **635 mm (25 in)**, the appropriate lift pins should be installed in the forward holes (1) in the hitch. If the distance is **635 mm (25 in)** or greater, install the appropriate pins in the rear holes (2) in the hitch.

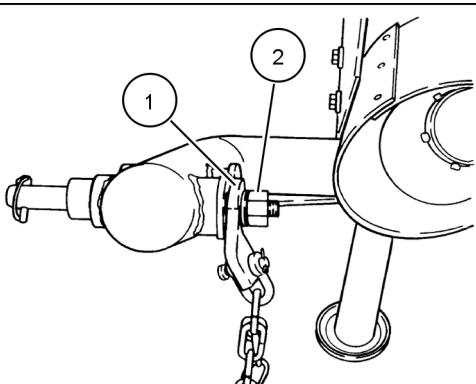
NOTICE: Failure to install the lift pins in the correct position could result in failure of the disc mower-conditioner PTO shaft.



19985198N 16

Install the pins in the hitch, and install the spacer and check chain plate (1) on the pin. Secure the pin and check chain using a **1 in** nut (2), lock washer and hardened flat washer. Tighten securely to **544 N·m (401 lb ft)**.

NOTICE: Only install one set of pins. Damage to the hitch could occur if both long and short pins are installed.

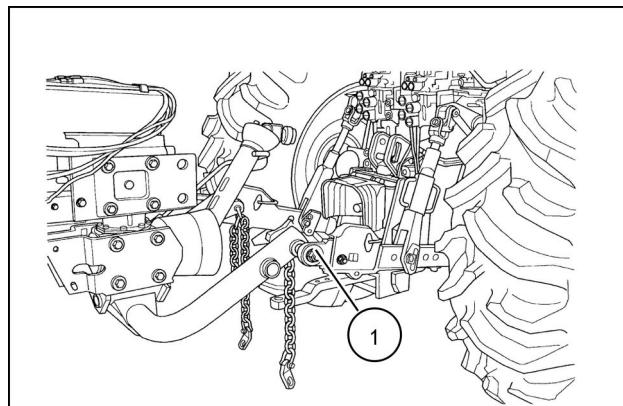


97-1537N 17

Attaching the disc mower conditioner to the tractor (2-point swivel hitch tongue)

Back the tractor up to the unit. Attach the lower lift arms (1) to the pins on the swivel hitch. If the disc mower-conditioner is equipped with a Category 3 or 3N hitch, the longer pins are available from your authorized dealer parts department.

NOTE: If the disc mower-conditioner is equipped with a Category 3 or 3N hitch, the longer pins are available from your authorized dealer parts department.



19985199N 18

Attach the PTO shaft by pulling back the locking collar (1). Slide the PTO shaft forward onto the tractor shaft until the pins engage in the tractor PTO shaft groove when the collar is released.

NOTE: The yoke where the collar slides must be free of paint and rust and must be kept lubricated with oil for the collar to slide freely.

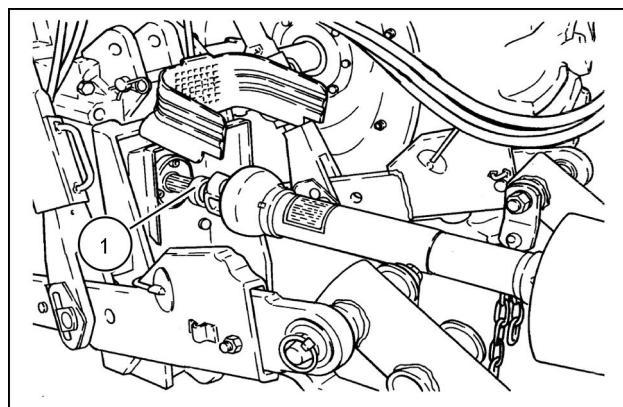
Check to make sure the PTO shaft is locked on the tractor shaft by trying to slide it on the shaft. To remove, pull back on the collar to unlock the pins and remove the PTO shaft. The swivel hitch and PTO shaft are designed to fit the majority of tractors with no danger of bottoming out if the lower lift arms are in inadvertently raised, provided that the swivel hitch lift pins are installed in the correct position. After attaching to the disc mower-conditioner with a tractor for the first time, slowly raise the lower lift arms to make sure the implement PTO shaft does not bottom out. If the PTO shaft will bottom out, refer to the tractor operator's manual for information on how to limit the up travel of the three point hitch, to prevent damage to the PTO shaft.

NOTICE: Failure to limit the up travel of the three point hitch could result in damage to the primary PTO drive shaft and tractor.

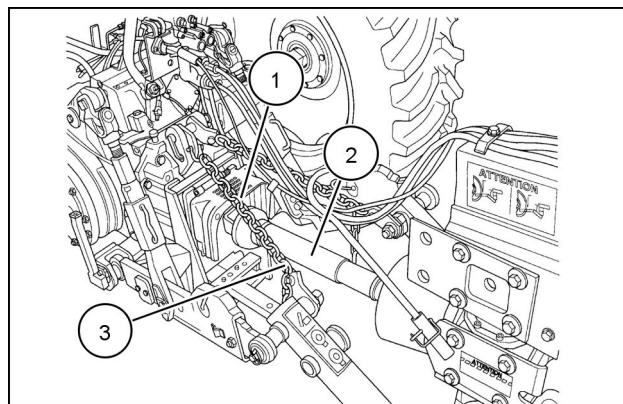
Attach the check chains (1) to the top link mounting position on the tractor, using the tractor top link mounting pin. Raise the tractor three-point hitch until the disc mower-conditioner PTO shaft (2) is level. Adjust the check chains as short as possible with the hitch in this position.

Excess chain (3) should be at the implement lift pins to prevent possible damage to tractor shielding and PTO. The check chains are not intended to carry the weight of the tongue but to prevent inadvertent lowering of the hitch which could result in the PTO shaft being pulled apart. The check chains should become tight, preventing lowering the hitch more than **25 - 102 mm (1 - 4 in)** from the PTO shaft level position.

NOTICE: Failure to properly use the check chains could result in the pulling apart of the primary PTO drive shaft. This could result in damage to the drive shaft and tractor.



97-1539RN 19



19985200N 20

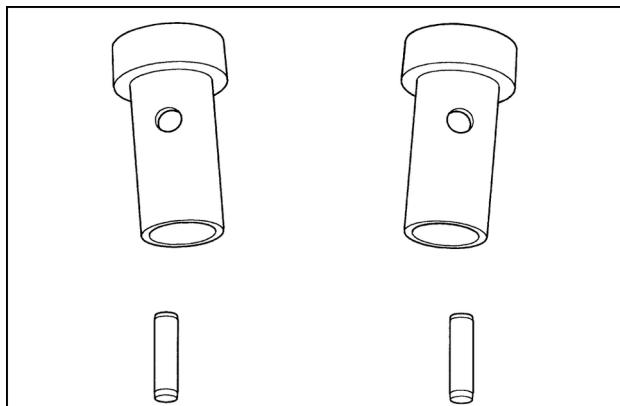
Preparing the swivel hitch tongue disc mower conditioner and tractors with a quick hitch

If the disc mower-conditioner is going to be used on a tractor with a Category 2, 3N, or 3 quick hitch, it will be necessary to purchase a quick hitch bushing kit, available from your authorized dealer parts department. The quick hitch bushing kit is to be used with the optional longer pins.

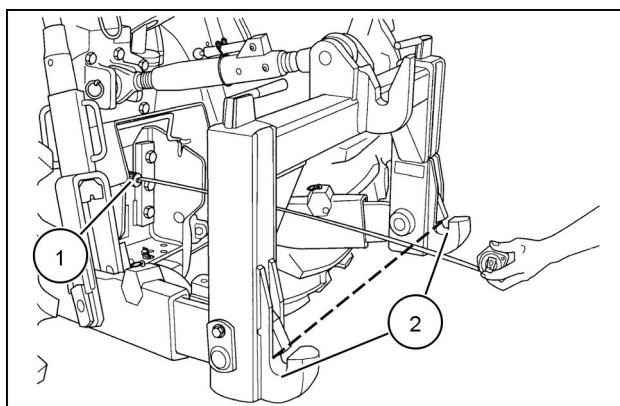
NOTE: *The optional longer pins are available from your authorized dealer parts department.*

Refer to the specifications section of this manual for the quick hitch bushing kit part number.

In order to ensure a sufficient amount of PTO shaft overlap on a wide variety of tractor hitches, the disc mower-conditioner is equipped with two pin mounting positions. To determine the correct pin position, it is necessary to measure the distance between the end of the tractor PTO shaft (1) and the lifting points on the quick hitch (2) with the lower links positioned level.



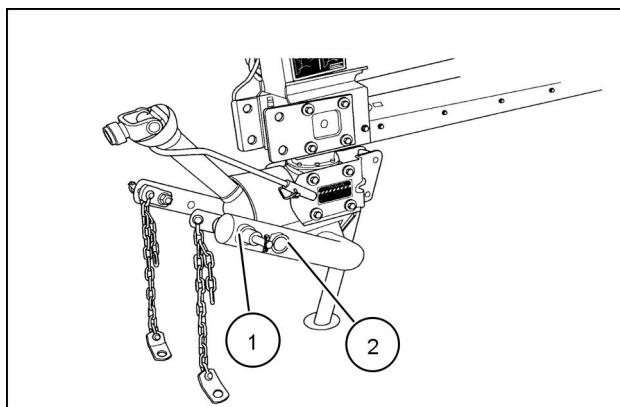
19996747N 21



19996748N 22

If the distance is less than **635 mm (25 in)**, the appropriate lift pins should be installed in the forward holes (1) in the hitch. If the distance is **635 mm (25 in)** or greater, install the appropriate pins in the rear holes (2) in the hitch. In most cases, using a quick hitch will require the pins to be installed in the rear hole location. Always measure to be sure.

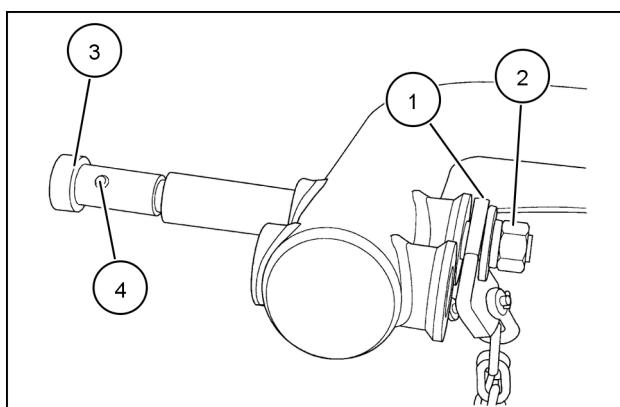
NOTICE: *Failure to install the lift pins in the correct position could result in failure of the disc mower-conditioner PTO shaft.*



19985198N 23

Install the pins in the hitch and install the spacer and check chain plate (1) on the pin. Secure the pin and check chain using a **1 in** nut (2), lock washer, and hardened flat washer. Tighten securely to **544 N·m (401 lb ft)**. Install the quick hitch bushings (3) onto the lift pins and retain with the pins (4) included in the bushing kit.

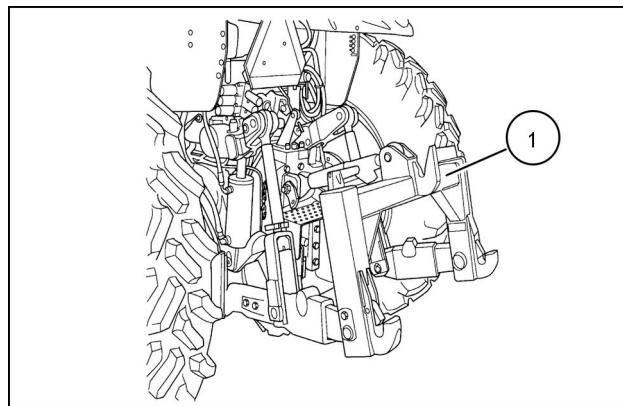
NOTICE: *Only install one set of pins. Damage to the hitch could occur if both long and short pins are installed.*



19996749N 24

The quick hitch (1) should be leaning toward the tractor. This can be accomplished by adjusting the top link of the tractor to the shortest position. This will prevent the upper portion of the quick hitch from contacting the tongue of the disc mower-conditioner during sharp turns and when traveling over uneven terrain.

NOTE: Failure to adjust the quick hitch towards the tractor may cause damage to the tongue of the disc mower-conditioner.



19996752N 25

Attaching the swivel hitch tongue disc mower-conditioner to the tractor with a quick hitch

Remove the primary PTO (1) from the disc mower-conditioner and place the PTO on the ground in a safe location away from the tractor or the front of the hitch. Remove the PTO support (2) from the hitch to prevent the PTO and PTO support from interfering with the quick hitch. Install the support upside down with the support facing the rear of the header. Reinstall the snap pin (3) to secure the PTO support into the hitch.

NOTICE: Failure to remove the PTO and reverse the PTO support may cause them to contact the quick hitch and damage the PTO and/or the PTO support.

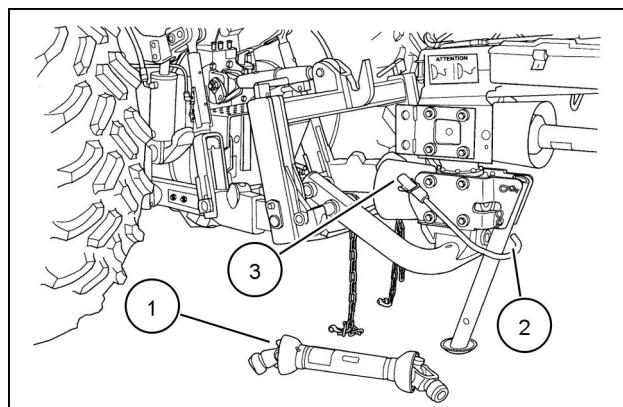
Back the tractor up to the unit. Attach the lift pins on the hitch of the disc mower-conditioner to the quick hitch. Lock the quick hitch over the lift pins to be sure that the pins are captured in the quick hitch.

Attach the PTO shaft by pulling back the locking collar (1) and slide the PTO shaft forward onto the tractor shaft until the pins engage in the tractor PTO shaft groove when the collar is released.

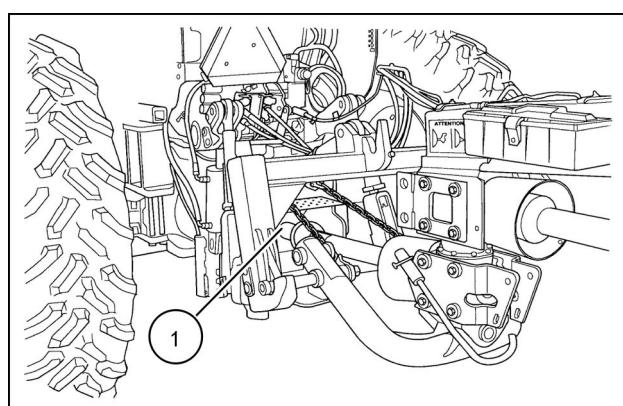
NOTE: The yoke where the collar slides must be free of paint and rust and must be kept lubricated with oil for the collar to slide freely.

Check to make sure the PTO shaft is locked on the tractor shaft by trying to slide it on the shaft. To remove, pull back on the collar to unlock the pins and remove the PTO shaft. The swivel hitch and PTO shaft are designed to fit the majority of tractors with no danger of bottoming out if the lower lift arms are inadvertently raised, provided that the swivel hitch lift pins are installed in the correct position. After attaching the disc mower-conditioner to a tractor for the first time, slowly raise the lower lift arms to make sure the implement PTO shaft does not bottom out. If the PTO shaft will bottom out, refer to the tractor operator's manual for information on how to limit the up travel of the quick hitch to prevent damage to the PTO shaft.

NOTICE: Failure to limit the up travel of the quick hitch could result in damage to the primary PTO drive shaft and tractor.



19986750N 26



19996751N 27

Attach the check chain plates of the disc mower-conditioner hitch to the top link mounting pin on the tractor. The top link bolt (1) on the tractor may need to be replaced with a longer bolt to properly attach the check chain plates.

Attach the check chains (2) to the top link mounting position on the tractor using the tractor top link mounting pin (1).

Raise the tractor three-point hitch until the disc mower-conditioner PTO shaft (3) is level. Adjust the check chains as short as possible with the hitch in this position.

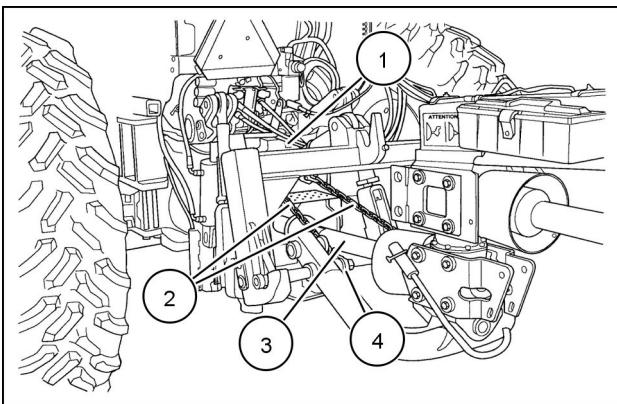
Excess chain should be at the implement lift pins (4) to prevent possible damage to the tractor shielding and PTO. The check chains are not intended to carry the weight of the tongue, but to prevent inadvertent lowering of the hitch, which could result in the PTO shaft being pulled apart.

The check chains should become tight when the lift arms are lowered, preventing lowering the hitch more than **25 - 102 mm (1 - 4 in)** from the PTO shaft level position.

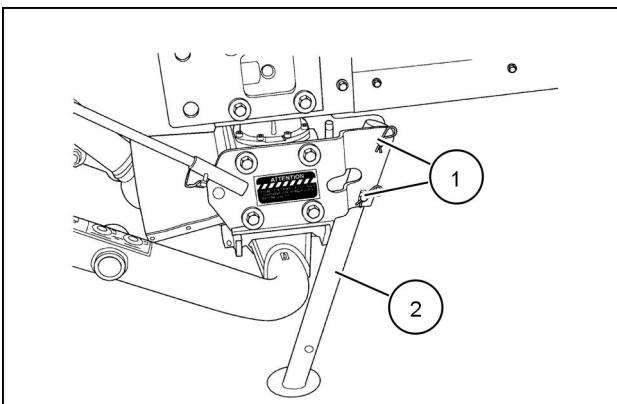
NOTICE: Failure to properly use the check chains could result in the pulling apart of the primary PTO drive shaft. This could result in damage to the drive shaft and tractor.

Jack stand (2-point swivel hitch tongue)

After attaching the disc mower-conditioner to the tractor, raise the jack stand off the ground by raising the tractor three-point hitch. Remove the two pins (1) and remove the jack stand (2).

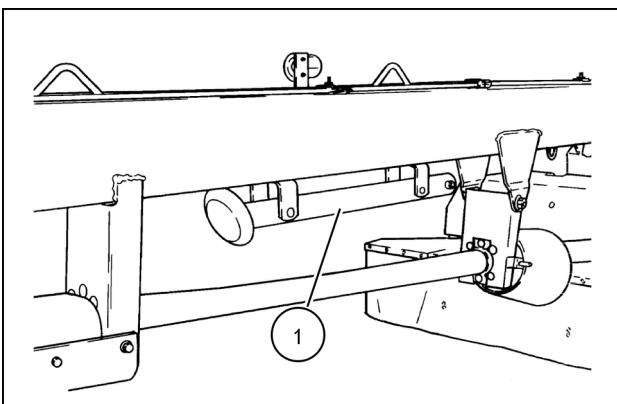


19996751N 28



19985201N 29

Store the jack stand (1) in the brackets underneath the tongue, and secure using the two pins.



97-1542N 30

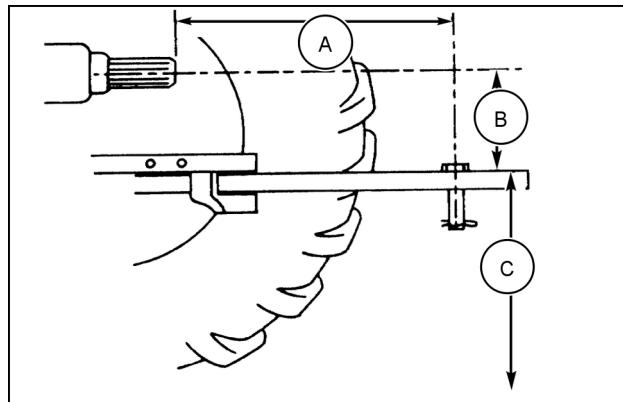
Tractor drawbar dimensions for drawbar swivel hitch tongue disc mower-conditioner

The disc mower-conditioner equipped with a drawbar swivel hitch requires that the drawbar be adjusted to provide a distance of **406 mm (16 in)** from the end of the tractor PTO shaft to the center of the hitch point on the tractor drawbar. The same distance is necessary whether using a **1 - 3/8 in 1000 RPM PTO** or **1 - 3/4 in 1000 RPM PTO**.

Adjust the tractor drawbar to a distance of **406 mm (16 in)** dimension (A) from the end of the tractor PTO shaft to the center of the drawbar hole.

Ideally the top of the tractor drawbar should be **203 - 305 mm (8 - 12 in)** dimension (B) below the tractor PTO shaft. A drawbar positioned too low or high will affect the drive line angle, and may cause the PTO drive shaft to bottom out or pull apart in some conditions. Locate the drawbar directly below the PTO shaft. Clamp the drawbar so it cannot be moved from side to side.

The drawbar height above the ground dimension (C) should be **330 - 508 mm (13 - 20 in)** for tractors up to **125 Hp**, and **381 - 559 mm (15 - 22 in)** for tractors from **125 Hp to 160 Hp**.



20106229N 31

NOTICE: Using a tractor with an incorrect PTO-to-hitch dimension can damage the front PTO and/or the tractor PTO drive line.

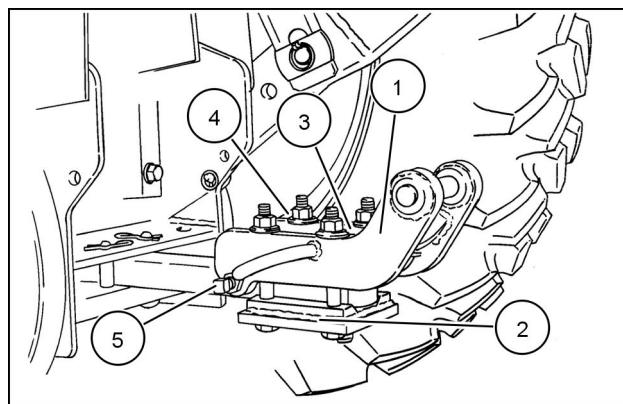
NOTICE: If the tractor has a three-point hitch, adjust the lower links either as high as possible or as low as possible, or remove them, to prevent them from hitting the tongue when turning.

NOTICE: The tractor drawbar size for the drawbar swivel hitch application should be **76.2 mm x 38.1 mm (3 in x 1.5 in)** or larger. Extended use with smaller drawbars may cause premature drawbar failure.

Attaching the drawbar swivel hitch disc mower-conditioner to the tractor

NOTICE: Attach the drawbar extension solidly to the tractor drawbar, clamp the drawbar securely, and tighten set screws to limit side to side movement. Pivoting the tongue will put heavy side loads on the tractor draw bar.

Install the drawbar extension (1) and clamp (2) on the drawbar. Install the drilled pin (3) down through the hole in the extension and the rear hole in the drawbar. Install hairpin cotter as close as possible to the bottom of the drawbar. Tighten the **3/4 in** nuts (4) evenly to **305 N·m (225 lb ft)**. Tighten set screws (5).



19996818N 32

Attach the disc mower-conditioner to the tractor drawbar extension using the supplied hitch pin.

Remove pin (1) from forward hole on hitch and let pawl pivot down. Back tractor in so cross pin (2) in hitch extension is located under hook (3) on hitch. Lower jack until pin is engaged in hook. Rotate pawl back up and secure with pin (1).

Insert the safety chain through the loop on the drawbar extension and around the drawbar support. The safety chain is intended to keep the machine under control in the event of loss or failure of the drawbar extension.

Attach the PTO by pulling back on the slide collar, and slide the PTO forward on the tractor shaft until the pins engage in the tractor PTO shaft groove. The collar will slide forward automatically locking the PTO shaft onto the tractor shaft.

NOTE: The yoke where the collar slides must be free of paint and rust and must be kept lubricated with oil for the collar to slide freely.

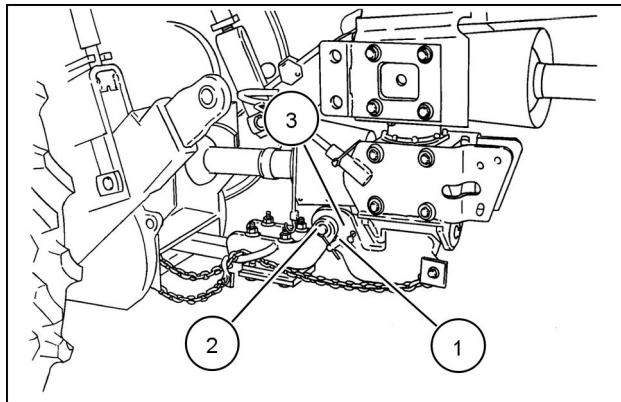
Check to make sure the PTO is locked on the tractor shaft. To remove, pull back on the collar to unlock the pins and remove the PTO.

Jack assembly (drawbar swivel hitch)

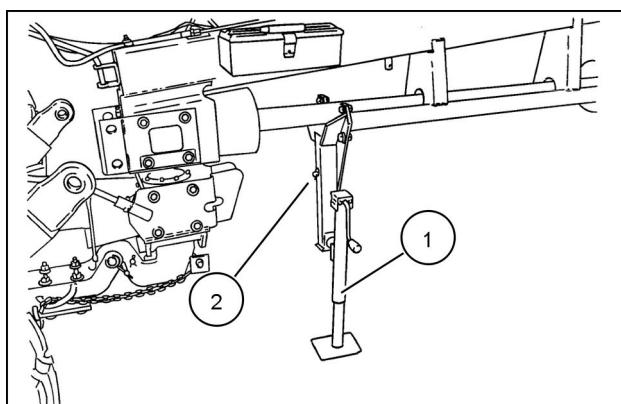
After attaching the disc mower-conditioner to the tractor, retract the jack by turning the hand crank counter-clockwise. Pull the pin and remove the jack (1). Store the jack under the tongue. Secure the jack with the pin.

Retract jack support (2) if it hangs too low for your field operation.

NOTE: To prevent the jack from unwinding during use, loop the chain around the handle before inserting the pin.



19996817N 33



19996816N 34

Connecting hydraulic hoses to the tractor

⚠ WARNING

Escaping fluid!

Hydraulic fluid or diesel fuel leaking under pressure can penetrate the skin and cause infection or other injury. To prevent personal injury: Relieve all pressure before disconnecting fluid lines or performing work on the hydraulic system. Before applying pressure, make sure all connections are tight and all components are in good condition. Never use your hand to check for suspected leaks under pressure. Use a piece of cardboard or wood for this purpose. If injured by leaking fluid, see your doctor immediately.

Failure to comply could result in death or serious injury.

W0178A

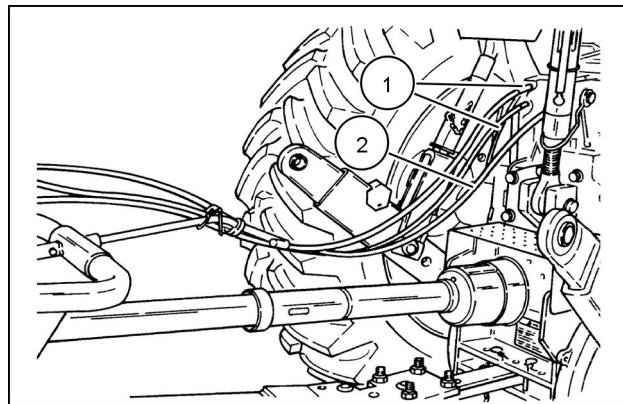
1. Be sure the hydraulic couplers on the hoses match the tractor couplings. If not install the correct couplers.
2. Attach both swing cylinder hoses (1) to the remote outlets of one tractor control valve.

NOTE: If this valve is adjustable, set it for slow hydraulic flow.

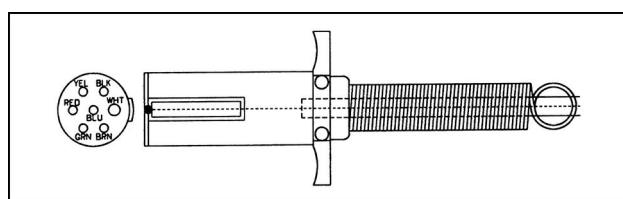
3. Attach the single lift cylinder hose (2) to a remote outlet from the second control valve. Connect the hose so the machine will raise when the hydraulic valve is pulled back in the opposite direction of the float position.

NOTE: Check the tractor operator's manual for instructions on which outlet should be used for single acting cylinders.

NOTICE: Tractor hydraulic relief valve pressure must not exceed 19305 kPa (2800 psi), or the machine may be damaged. It will require a minimum of 10342 kPa (1500 psi) to operate the lift cylinders.



4. Attach the wire harness connector for the trailing lights to the tractor light connector. The lights wire harness uses a 7-pin trailer connector which conforms to **SAE J560**.



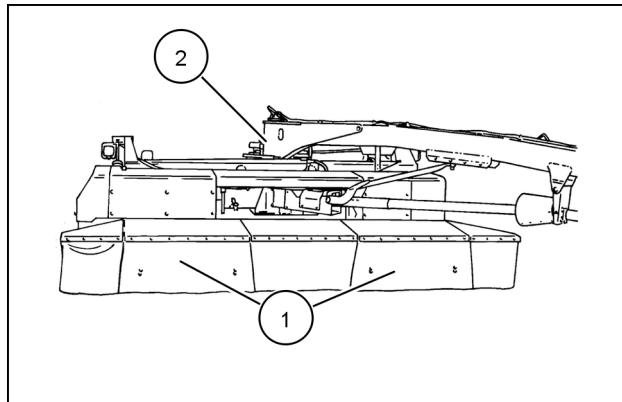
⚠ WARNING

Unexpected machine movement!

Air in the system or a high hydraulic flow rate can cause erratic operation. Before swinging the tongue, clear the area of all bystanders and obstructions.

Failure to comply could result in death or serious injury.

W0236A



4896-08N 37

5. Ensure the cutter bar shields (1) are lowered before moving the unit to prevent damage to the shields. Disengage the tongue transport lock (2). Maneuver the tractor through both hard left and right turns. Shift the tongue both full left and full right, while raising and lowering the header. Check to be sure the hoses and wire harness do not get pinched or hung up on frame components. Secure excess hose and wire harness on the standard tongue using the rubber bungee strap.

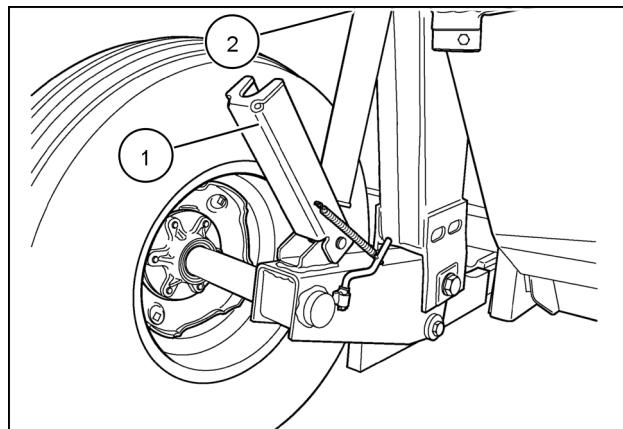
Bleeding air from the lift cylinders

⚠ WARNING

Moving parts!

Disengage the Power Take-Off (PTO), turn off the engine, and remove the key. Wait for all movement to stop before leaving the operator's position. Never adjust, lubricate, clean, or unplug machine with the engine running. Failure to comply could result in death or serious injury.

W0112A



50051190A 38

⚠ WARNING

Escaping fluid!

Hydraulic fluid or diesel fuel leaking under pressure can penetrate the skin and cause infection or other injury. To prevent personal injury: Relieve all pressure before disconnecting fluid lines or performing work on the hydraulic system. Before applying pressure, make sure all connections are tight and all components are in good condition. Never use your hand to check for suspected leaks under pressure. Use a piece of cardboard or wood for this purpose. If injured by leaking fluid, see your doctor immediately.

Failure to comply could result in death or serious injury.

W0178A

If the lift cylinders do not lift the frame evenly or if one side lifts higher than the other, rephase the cylinders by lowering the disc mower-conditioner, and continue to hold the lever in the lowering position for 10 to 15 seconds, or raise the disc mower-conditioner and continue to hold the lever in the raise position for 10 to 15 seconds. If the lift cylinders still do not extend far enough to install the header lift locks (1), there may be air in the hydraulic system that must be purged.

Loosen the hose swivel fitting (2) at the upper end of the slave cylinder.

NOTE: Use a shop rag or other shielding means for protection from seeping oil at loosened fittings.

With the tractor engine at a low idle, move the tractor hydraulic lever to the raise position to extend the master lift cylinder until oil flow from the loosened fitting is free of air. Then tighten the fitting.

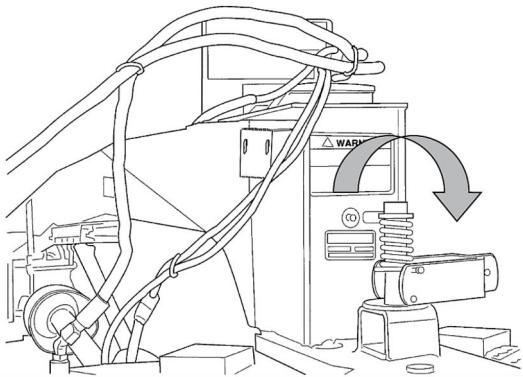
NOTICE: If the cylinders do not extend far enough to release the header lift locks, air remains in the hydraulic system and must be purged. If the lift lock on the master cylinder side does not release, excessive oil may be in the slave cylinder circuit. Bleed this oil until both lock rods or channels (if equipped) are engaged.

Raise and lower the header several times until all air is purged from the system. Repeat the previous steps if necessary.

Tongue shift transport lock

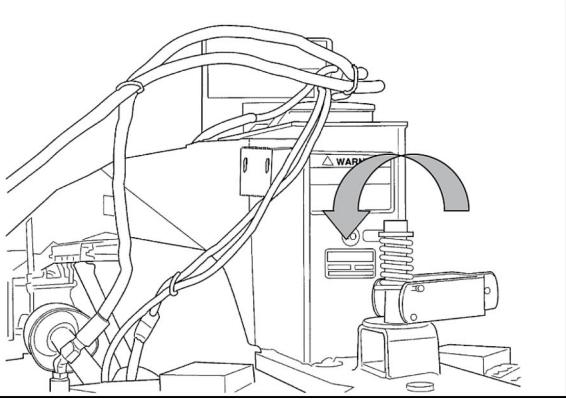
To disengage the tongue transport lock, rotate the transport lock bracket up and over (one half turn) so that the transport lockpin is spring loaded upwards. Shift the machine slightly so that the transport lockpin disengages from the trail frame.

The tractor hydraulics can now be used to pivot the machine into the field position.



199985197NNA 39

To engage the tongue transport lock, rotate the transport lock bracket up and over (one half turn) so that the transport lockpin is spring loaded downwards. Shift the machine into the transport (center) position so that the transport lockpin engages in the trail frame.



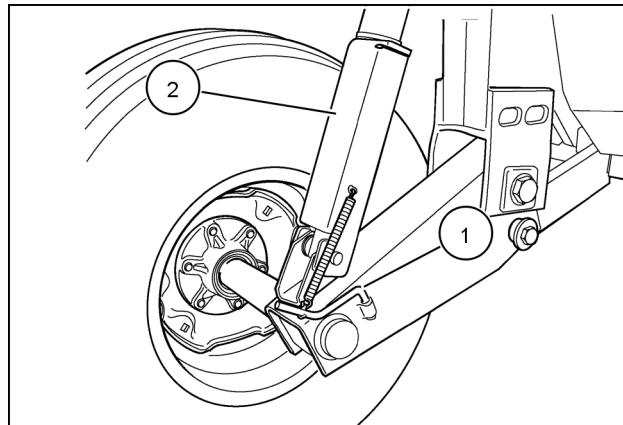
199985197NNB 40

⚠ DANGER

Unexpected machine movement!

Always engage the transport stops when working around a raised header or when transporting the machine on a public road. Failure to comply will result in death or serious injury.

D0042A



50051189A 41

To engage header lift lock channel:

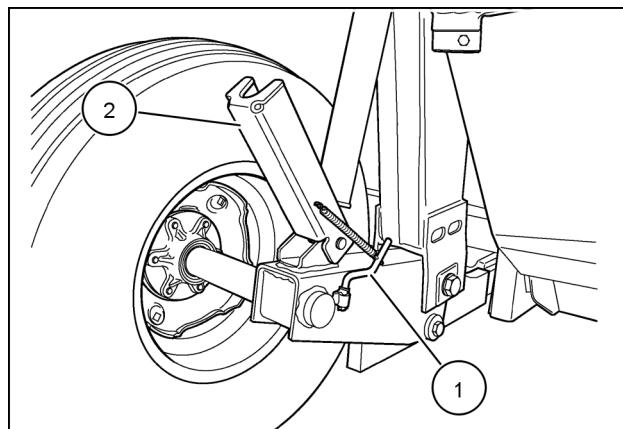
1. Raise unit with tractor hydraulics until lift lock channel (2) engages under lift cylinder.
2. To engage header lift lock channels, pivot both right and left lock levers (1) forward. The channels (2) should move forward under the barrel of cylinder with the machine raised. Lower header onto the stops.

To disengage header lift channel:

1. Raise unit with tractor hydraulics.
2. Rotate lift lock levers (1) rearward. The channels (2) should move rearward.

NOTE: If the cylinders do not extend far enough to release the header lift locks, there may be air in the hydraulic system that must be purged. Refer to "Bleeding Air from the Lift Cylinders" in this section.

NOTICE: Always engage or disengage both header lift locks at the same time. Lowering the unit with one lock engaged could cause damage to the unit.



50051190A 42

Transporting the mower-conditioner

⚠ WARNING

Transport hazard!

ALWAYS engage the header lift locks and the tongue swing cylinder lock during transport. If the locks are disengaged during transport and you accidentally engage the tractor hydraulics, the machine may drop onto the ground or swing to the right into roadside obstacles, oncoming traffic, or ditches.

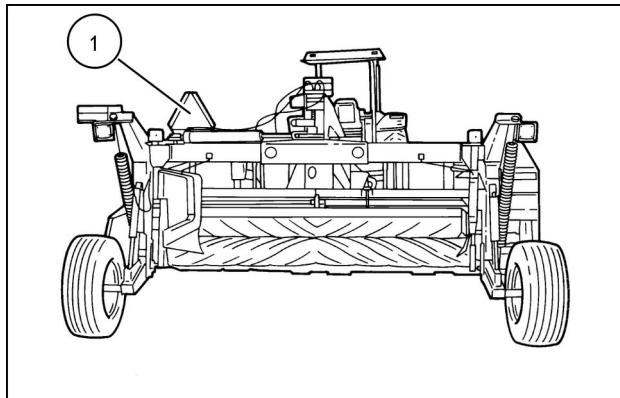
Failure to comply could result in death or serious injury.

W0235A

Slow-moving vehicle emblem

Some states and provinces require Slow-Moving Vehicle (SMV) emblems on machines traveling at speeds under **32 km/h (20 mph)**. Consult local regulations for information and mounting requirements.

A SMV mounting bracket is located on the left rear frame. The SMV emblem (1) and mounting bracket are furnished as standard equipment on the disc mower-conditioner.



19991329N 43

Safety chain

⚠ WARNING

Transport hazard!

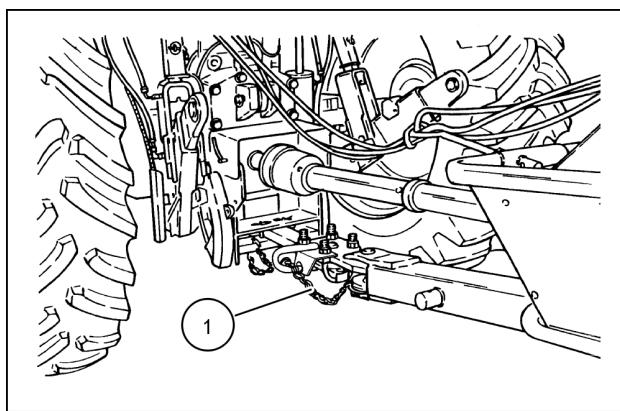
Always connect a safety chain between the machine and the implement. Only use a safety chain with a strength rating equal to or greater than the gross weight of the implement.

Failure to comply could result in death or serious injury.

W0395A

The safety chain (1) must be used when towing the disc mower-conditioner on a public road. The safety chain is intended to keep the machine under control in the event of loss or failure of the hitch pin.

When the safety chain (1) is attached to the tractor it should be supported midway between the machine and the tractor. A clevis should be installed on the drawbar to support the chain.



1431-2-02RN 44

Transporting on highways

⚠ WARNING

Transport hazard!

Always connect a safety chain between the machine and the implement. Only use a safety chain with a strength rating equal to or greater than the gross weight of the implement.

Failure to comply could result in death or serious injury.

W0395A

⚠ WARNING

Transport hazard!

ALWAYS engage the header lift locks and the tongue swing cylinder lock during transport. If the locks are disengaged during transport and you accidentally engage the tractor hydraulics, the machine may drop onto the ground or swing to the right into roadside obstacles, oncoming traffic, or ditches.

Failure to comply could result in death or serious injury.

W0235A

DO NOT tow equipment:

- at speeds over **32 km/h (20 mph)** or,
- that when fully loaded weighs more than 1.5 times the weight of the towing unit.

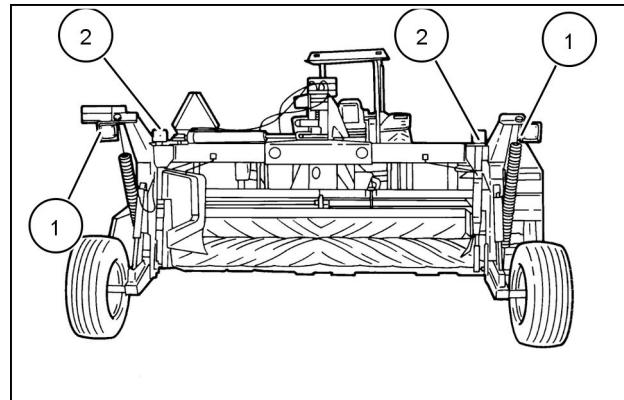
Trailing lights

The trailing lights should be used when towing the mower-conditioner on a public road.

The trailing lights consist of two amber flashing lights (1), and two red tail/brake lights (2).

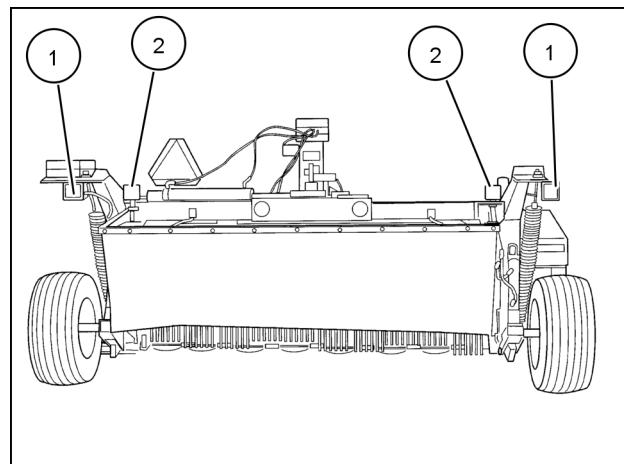
This lighting system is intended to improve the machine operators visibility on public roads and warn other vehicles of your actions. This machine is equipped with a lighting system which conforms to **ASAE S279.10**.

Roll conditioning



19991329N 45

Flail conditioning



19985205 46

Implement lights

The following chart details the transport light operation with a seven-pin SAE J560 male connector. Refer to "Transport Light Connector Socket" below for more information on J560 connectors.

NOTE: Left and right are determined by standing behind the unit, facing the normal direction of travel.

Implement Lights				
Tractor Lights	Left Amber	Left Red	Right Red	Right Amber
Headlights "OFF"	-	Off	Off	-
Headlights "ON"	-	Dim	Dim	-
Amber Flashing Lights "OFF"	Off	-	-	Off
Amber Flashing Lights "ON"	Flashing (same rate as right)	-	-	Flashing (same rate as left)
Brake Lamps* (brakes applied) Amber Flashing Lamps "ON" — no turn indicated (no tractor brake lamps)	- Flashing (same rate as right)	Bright* Bright*	Bright* Bright*	- Flashing (same rate as left)
Amber Flashing Lamps "ON" — no turn indicated (no tractor brake lamps)	Flashing (same rate as right)	Off**	Off**	Flashing (same rate as left)
Left Turn Indicated	Increased flash rate	Off, dim, or flashing*** in unison with left	Off or dim	Illuminated, no flashing
Right Turn indicated	Illuminated, no flashing	Off or dim	Off, dim or flashing*** in unison with right	Increased flash rate

NOTE: Check local laws or regulations concerning agricultural machinery lighting and marking.

NOTE: It is recommended that headlights be illuminated, "ON", for traveling on roads.

* Implement brake lights (red) to illuminate when tractor brakes applied (tractor with brake lights).

** If tractor is not equipped with brake lights, contact your authorized NEW HOLLAND AGRICULTURE dealer to purchase implement light control module to attain enhanced turn signal function; installation instructions follow.

*** Brake light (red) flashes in unison with amber flasher indicating direction of turn if the tractor is not equipped with brake lights — requires implement light control module — contact your authorized NEW HOLLAND AGRICULTURE dealer to purchase implement light control module; installation instructions follow.

NOTE: The lighting control box is used to control the amber lamps and brake light circuits. The tail lamps are on only when the tractor park or road lights are on.

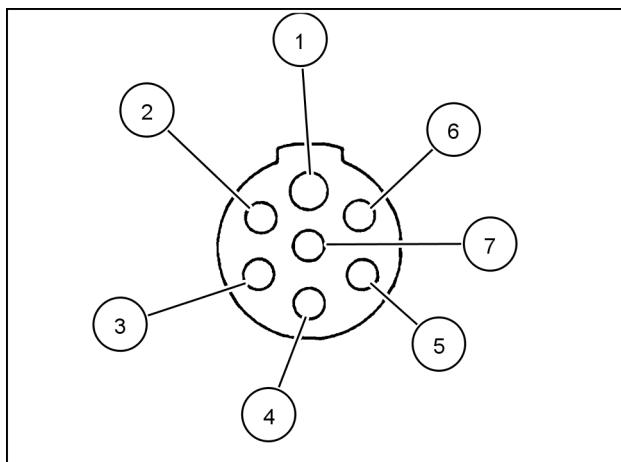
The disc mower-conditioner trailing light wire harness uses a 7-pin trailer connector to connect the mower-conditioner to a tractor electrical socket which conforms to **SAE J560**.

For proper light function, this unit must be connected to a tractor incorporating an **SAE** standard 7-pin conductor electrical socket which conforms to **SAE J560**. If your tractor does not have a 7-pin conductor electrical socket, obtain a connector socket from your authorized dealer.

Socket installation

Use the tractor wiring diagram or, if necessary, use a test light to identify the tractor wires. Connect the wires to the socket as follows:

Pin	Connector ID	Attached To
1	White (WHT)	Ground wire, all lights
2	Black (BLK)	Not used
3	Yellow (YEL)	Left side amber light
4	Red (RED)	Brake lights
5	Green (GRN)	Right side amber light
6	Brown (BRN)	Taillights
7	Blue (BLU)	Not used



19987865 47

Standard **SAE J560** provides that the number **(4)** conductor (red wire) socket of the propelling vehicle is connected to the brake light circuit so that the brake lights activate when the brake pedal is depressed.

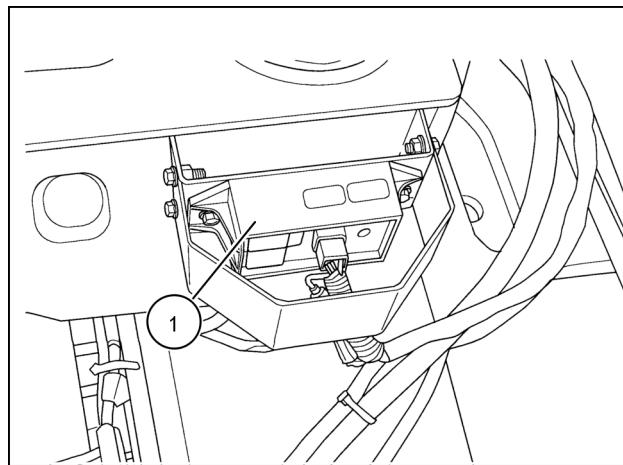
Most tractors are wired to provide the brake light signal through the number **(4)** pin in the connector socket. Some model tractors do not provide this capability. On these tractors, the brake lights on trailing implements will not function; however, hazard, turn, and tail lamps will function.

NOTE: On some tractors, the Number 4 pin in the socket is utilized for other functions. Therefore, this circuit may be on all the time or any time the key switch is on. This will cause the trailing implement brake lights to be on all the time.

If you have one of these tractors, the brake light circuit can be disabled by disconnecting the bullet connector located in the wire harness where it attaches to the lighting control box (1).

NOTICE: When you later re-attach the machine to a standard electrical socket on propelling vehicle, the brake light circuit must be reconnected to function.

NOTICE: If this machine is to be transported on the highway, the propelling vehicle must be equipped with the appropriate electrical socket so that the brake lights function.



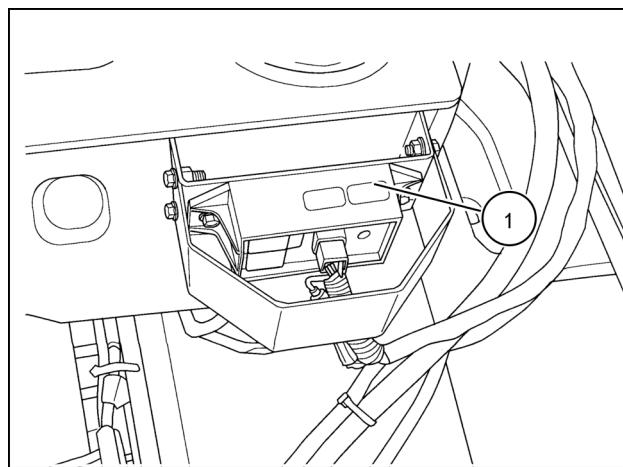
19994424 48

Installing an implement light control module

The implement light control module provides enhanced turn signal function to tractors without brake lights; contact your NEW HOLLAND AGRICULTURE authorized dealer to purchase module and protective shield.

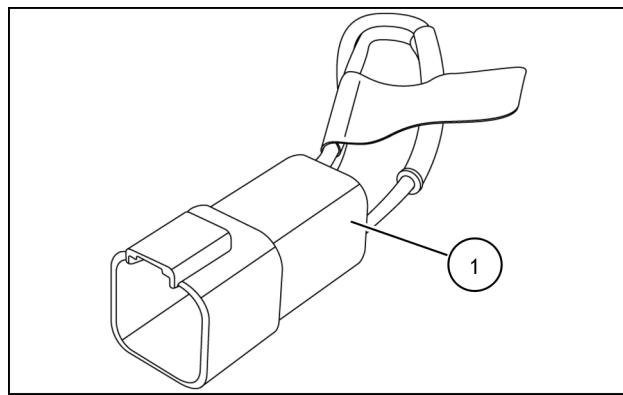
The implement light control module (1) if equipped, will be mounted behind a protective cover on the left-hand side of the base of the tongue.

NOTE: An implement light module will also work with tractors that have brake lights



19994424 49

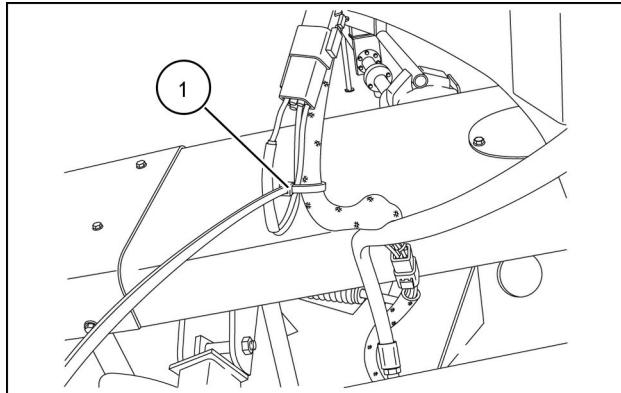
If the mower conditioner is not fitted with an implement light control module, a small loop harness (1) will be installed on the machine wire harness in its place.



93110023 50

To install an implement light control module:

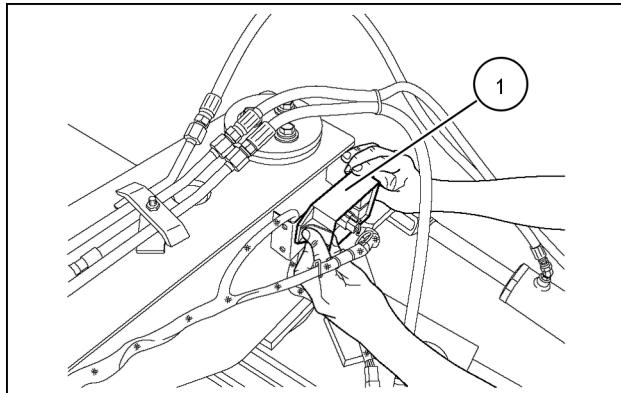
1. Locate loop harness (1). Cut wire tie binding it to the machine wire harness and discard.



93113259 51

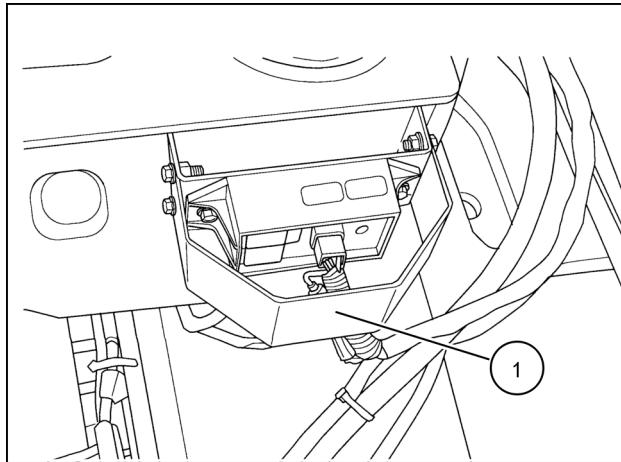
2. Unplug loop harness from machine wire harness and plug the implement light module into the machine wire harness in its place.

3. Mount the light control module (1) to the two holes, in the light bracket using two **1/4 in —20** Grade 5 flanged hex bolts and two **1/4 in —20** flanged lock nuts.



93113255 52

4. Install protective shield (1) over the implement light module and wire harness connection using four **1/4 in —20** Grade 5 flanged hex bolts, four **M6 Belleville** washers and four **1/4 in —20** Grade 5 lock nuts.



19994424 53

Towing with a tractor

⚠ WARNING

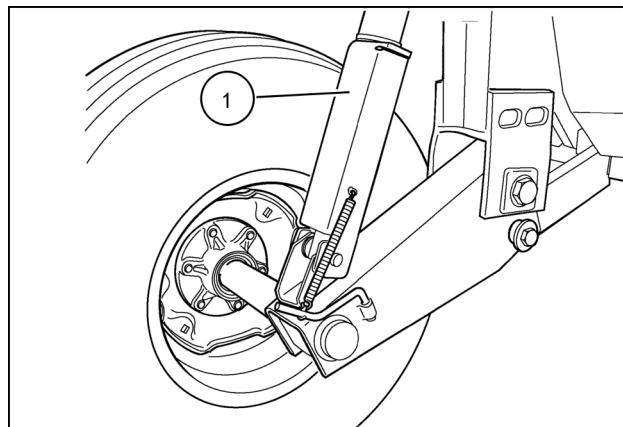
Transport hazard!

ALWAYS engage the header lift locks and the tongue swing cylinder lock during transport. If the locks are disengaged during transport and you accidentally engage the tractor hydraulics, the machine may drop onto the ground or swing to the right into roadside obstacles, oncoming traffic, or ditches.

Failure to comply could result in death or serious injury.

W0235A

1. Ensure the unit is securely attached to an appropriately sized tractor.
2. Raise the header. Engage the header lift locks (1).



50051189A 54

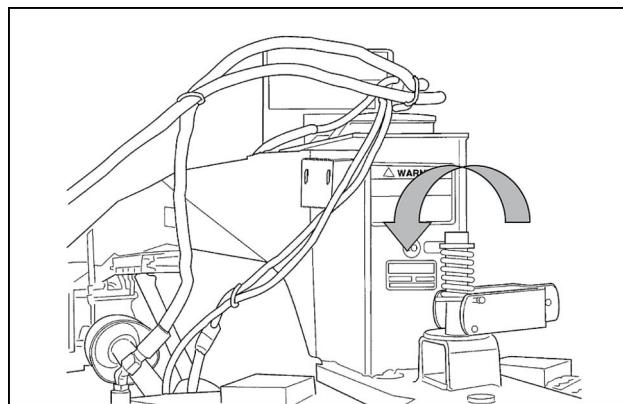
⚠ WARNING

Transport hazard!

ALWAYS engage the header lift locks and the tongue swing cylinder lock during transport. If the locks are disengaged during transport and you accidentally engage the tractor hydraulics, the machine may drop onto the ground or swing to the right into roadside obstacles, oncoming traffic, or ditches.

Failure to comply could result in death or serious injury.

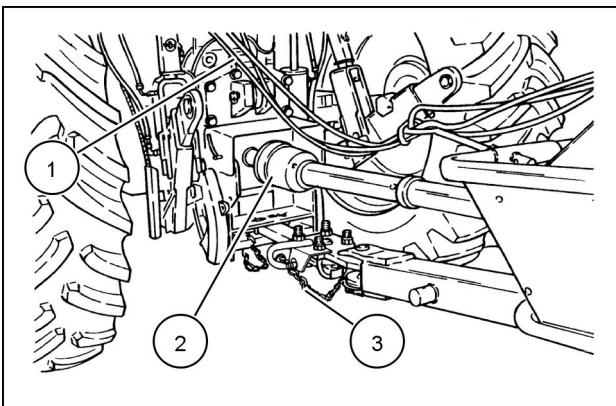
W0235A



199985197NNB 55

3. Rotate the tongue transport lock bracket up and over (one half turn) so that the transport lockpin is spring loaded downwards. Shift the machine into the transport (center) position so that the tongue transport lockpin engages in the trail frame.

4. Leave the hydraulic hoses (1) and PTO shaft (2) connected to the tractor, or be sure they are positioned in the hanger and secured to prevent damage. If PTO shaft is positioned in the hanger, remove the front half of the PTO shaft to prevent damage to the shaft.
5. When towing the disc mower-conditioner on a road or highway, use the necessary flashing lights to adequately warn operators of other vehicles. Consult local governmental regulations for specific requirements.
6. Use a safety chain (3) when transporting the unit on a public highway. The safety chain is intended to keep the machine under control in the event of loss or failure of the hitch pin. A safety chain is available through your authorized dealer.



1431-2-02RN 56

⚠ WARNING

Transport hazard!

Always connect a safety chain between the machine and the implement. Only use a safety chain with a strength rating equal to or greater than the gross weight of the implement.

Failure to comply could result in death or serious injury.

W0395A

2 - SAFETY INFORMATION

Basic operating safety rules - Precautionary Statements

A careful operator is the best operator. Most accidents can be avoided by observing certain precautions. To help prevent accidents, read the following precautions before operating this equipment. Equipment should be operated only by those who are responsible and instructed to do so.

Carefully review the procedures given in this manual with all operators. It is important that all operators be familiar with and follow safety precautions.

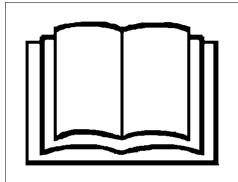
1. Never operate the machine with any shield raised. Always operate the disc mower-conditioner with the covers and shields in place and skirts clipped together
2. A tractor with an enclosed cab is recommended when operating a rotary disc cutting machine.
3. Fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Always protect the skin and eyes from escaping fluid under pressure. Before disconnecting lines or fittings, be sure to release all pressure by operating the tractor control valves. Before applying pressure to the system, be sure all connections are tight and that hoses and connections are not damaged. If injured by escaping fluid, obtain medical assistance at once. Serious infection or reaction can develop if medical treatment is not administered immediately.
4. If hydraulic couplers must be changed, be sure to bleed off any residual pressure slowly.
5. Before swinging the tongue, be sure the machine will clear any obstructions. Be sure bystanders are clear of the machine when swinging the tongue. Air in the system or high hydraulic flow rate can cause erratic operation.
6. When you disconnect and later reattach the machine to a standard electrical socket on propelling vehicle, the brake light circuit must be reconnected to function.
7. Failure to engage the header lift locks and tongue swing cylinder lock when transporting machine could cause the machine to drop onto the pavement or to swing to the right into roadside obstacles or ditches if the tractor hydraulics are accidentally engaged during transport.
8. Never adjust or make a repair with the disc mower-conditioner running. Disengage the PTO and shut off the tractor engine before attempting to make adjustments or service the machine. Wait for all rotating parts to stop before opening shielding, covers, or standing close to the machine.
9. Loose stones and foreign objects can be deflected toward the operator on machines with rotary discs.
10. Immediately replace any skirt that is torn or has a hole in it.
11. Tilt the cutter bar back in fields where stones and foreign objects are present, to raise the cutting knives and minimize debris deflected from the knives and reduce knife damage. If stones or other foreign objects enter the cutter bar, they can be deflected toward the operator or bystanders, resulting in physical injury.
12. Stand clear! Rotating elements may cause serious bodily injury.
13. Do not attempt to remove material from the disc mower-conditioner while it is in operation. Shut the tractor off and allow the rotating discs to stop before leaving the tractor.
14. Always operate the disc mower-conditioner with the covers and shields in place. Do not lean against or stand on the covers or shields.
15. Be sure that the header lift locks are engaged before working on a raised header.
16. Do not attempt to unplug conditioner rolls without first relieving roll pressure. Roll pressure could cause top conditioner roll to move downward suddenly and could cause personal injury
17. The header must be resting on the ground or suspended in the transport position by the header lift locks during lubrication or maintenance.
18. Replace damaged knives, knife hardware or discs immediately to prevent an accident.
19. The bottom leading edge of worn discs can become very sharp; wear gloves to prevent injury.
20. The tractor end of the primary PTO shaft has a CV joint which is heavy. Be careful when handling it. Dropping it could cause personal injury to yourself and damage the CV joint.
21. Replace cracked or severely deformed knives immediately to prevent an accident.
22. Before disconnecting the lift cylinder hose, be sure the header is resting on the ground or on the header lift locks.
23. Always replace or close all shields after making repairs, adjustments, or after lubricating. Shields are for your protection. Keep them in place!
24. Replace any severely worn or damaged flails. This will prevent an accident, damage to the mower-conditioner and the possibility of leaving metal in the windrow.

Safety signs

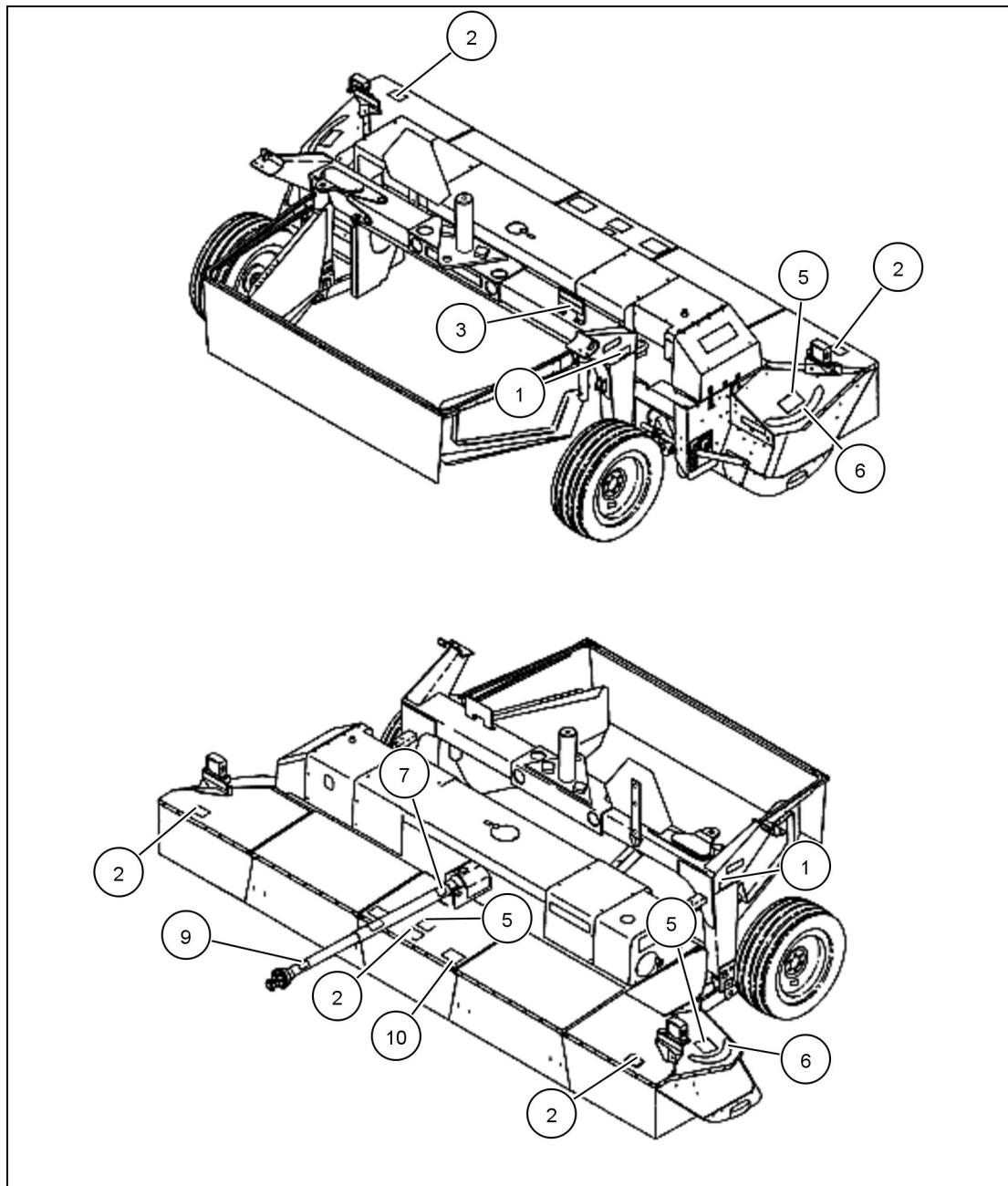
The following safety signs are placed on your machine as a guide for your safety and for those working with you. Walk around the machine and note the content and location of these safety signs before operating your machine.

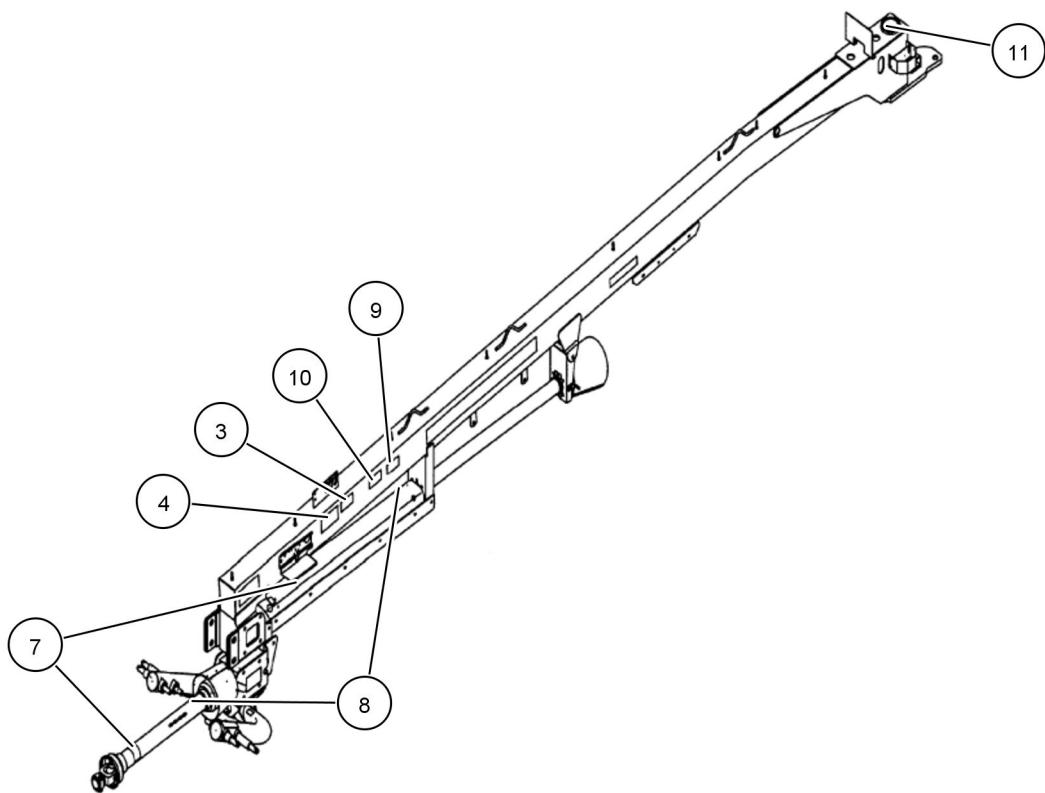
Keep safety signs clean and legible. Clean safety signs with a soft cloth, water, and a gentle detergent. Do not use solvent, gasoline, or other harsh chemicals. Solvents, gasoline, and other harsh chemicals may damage or remove safety signs.

Replace all safety signs that are damaged, missing, painted over, or illegible. If a safety sign is on a part that is replaced, make sure the safety sign is installed on the new part. See your dealer for replacement safety signs.

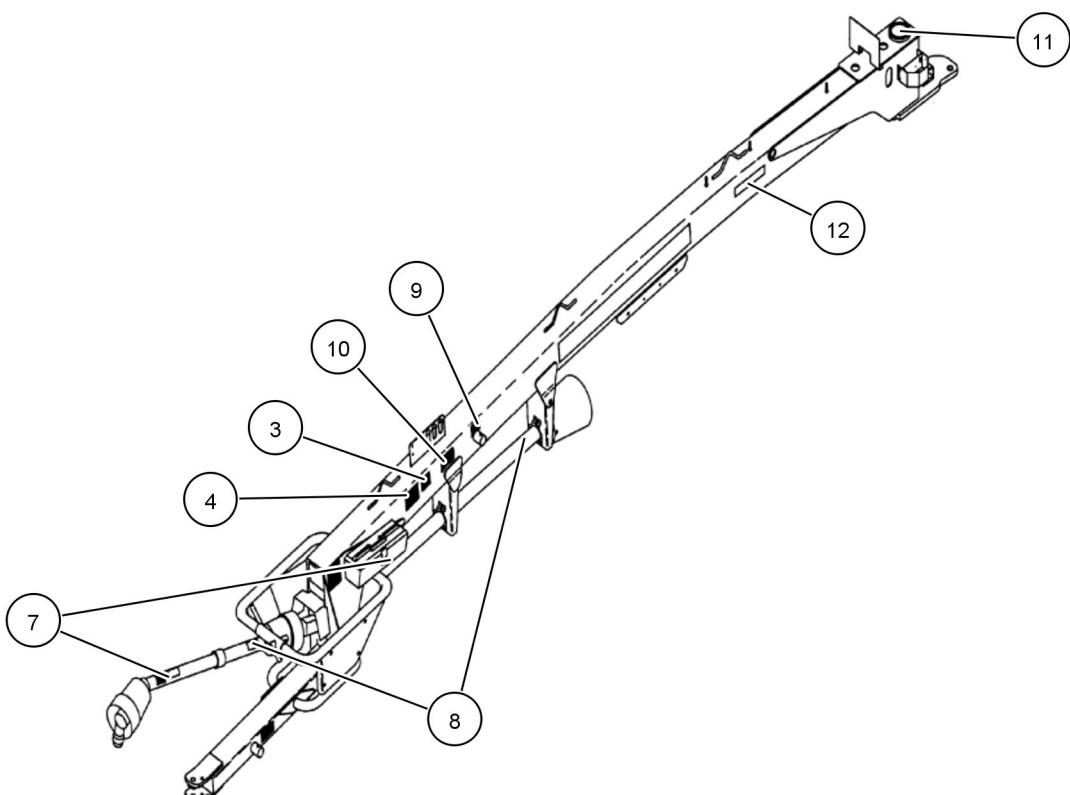


Safety signs that display the “Read Operator’s Manual” symbol are intended to direct the operator to the operator’s manual for further information regarding maintenance, adjustments, or procedures for particular areas of the machine. When a safety sign displays this symbol, refer to the appropriate page of the operator’s manual.





50052111N 2



50052856N 3

DANGER

Header will fall rapidly if hydraulic lift system should fail.

Rest header on ground or engage lift cylinder lockouts when working around raised header.

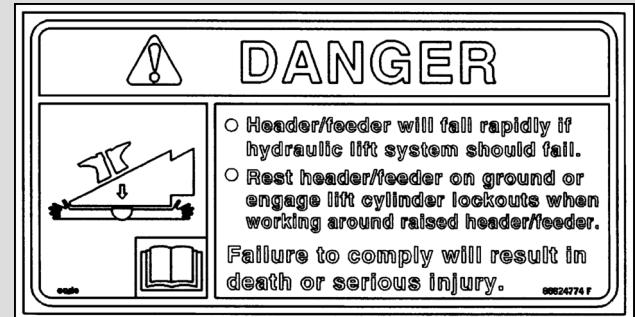
Failure to comply will result in death or serious injury.

Quantity: 2

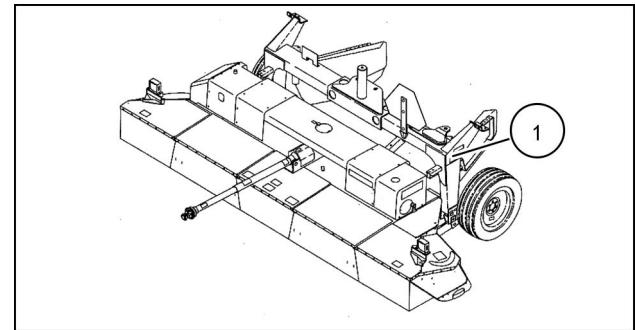
English 86624774

French 86625175

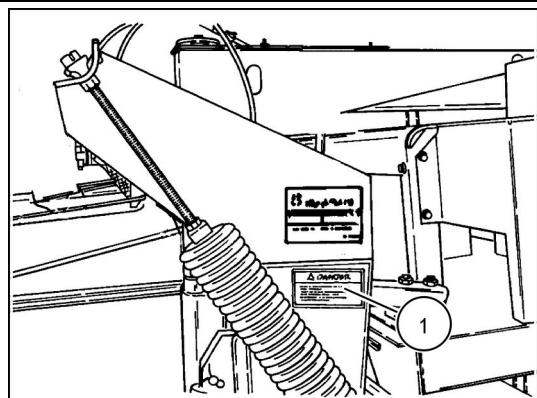
Spanish 86625174



(1) Left-hand side of trailframe.



(1) Right-hand side of trailframe.



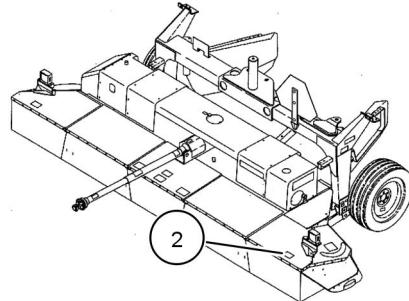
WARNING
SLIPPERY SURFACE
DO NOT use this area as a step or platform.
Failure to comply could result in death or serious
injury.

Quantity: 3
English 86611825
French 86614084
Spanish 86624655



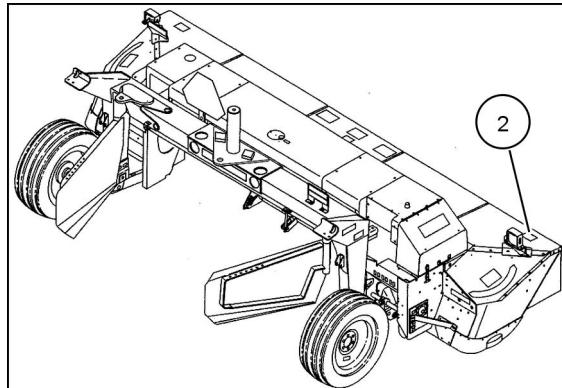
86611825_K 7

(2) Located on the left-hand shield.



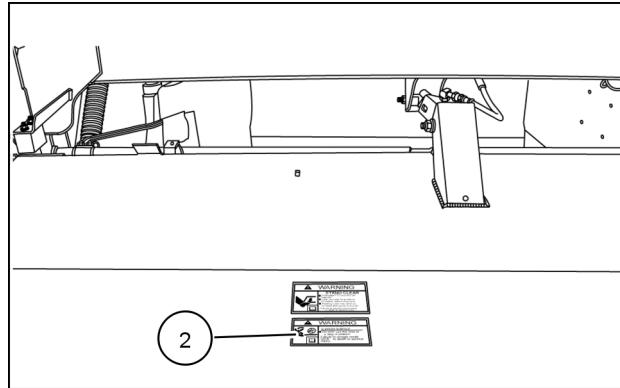
19997824A 8

(2) Located on the right-hand shield.



19997824 9

(2) Located on the front shield.



93105758 10

WARNING

Set machine to clear obstructions and stones.
Machine can throw stones and debris toward operator or bystanders.

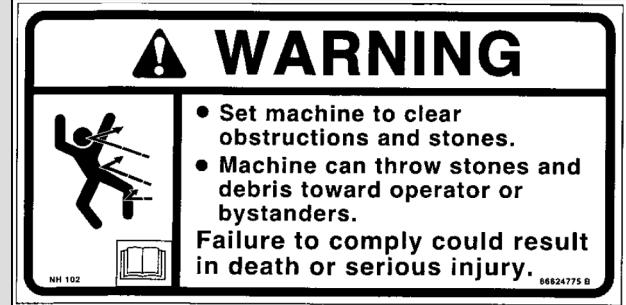
Failure to comply could result in death or serious injury.

Quantity: 2

English 86624775

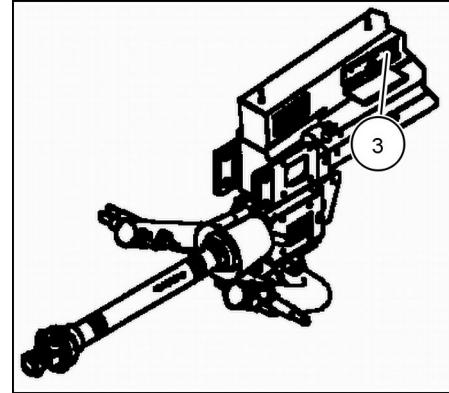
French 86624172

Spanish 86625173



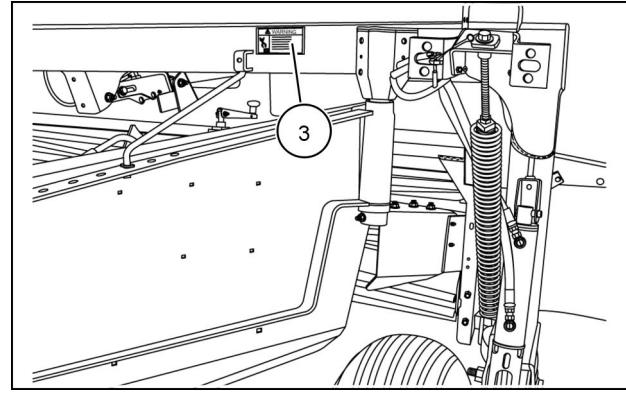
86624775 11

(3) Located on the front left-hand side of the tongue.



20015625 12

(3) Located on the rear right-hand side of the trailframe (roll machines only).



93105760 13

WARNING

Before operating machine, read operator's manual and **ALL SAFETY** instructions.

If manual is missing, contact your dealer or service department.

Before starting or operation, clear area of bystanders. Disengage drives including PTO. Stop engine, wait for all movement to stop before leaving operator's position.

Keep all shields in place, keep hands, feet, clothing and hair from moving parts.

Keep riders off machines.

Use Slow-Moving Vehicle (SMV) identification emblem and flashing warning lights when operating on highways, except when prohibited by law.

Never adjust, lubricate, clean or unplug machine with engine running.

Failure to comply could result in death or serious injury.

Quantity: 1

English 86622073

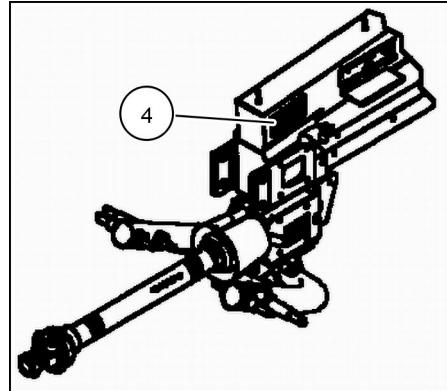
French 86622074

Spanish 86622075



86622073 14

(4) Located on the front left-hand side of tongue.



20015625 15

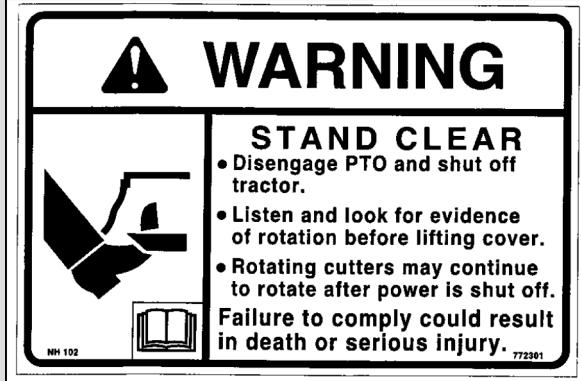
WARNING
STAND CLEAR

Disengage PTO and shut off tractor.
Listen and look for evidence of rotation before lifting cover.

Rotating cutters may continue to rotate after power is off.

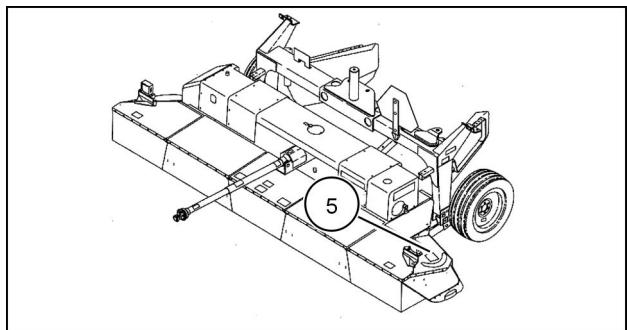
Failure to comply could result in death or serious injury.

Quantity: 3
English 86628571
French 86629518
Spanish 86629519



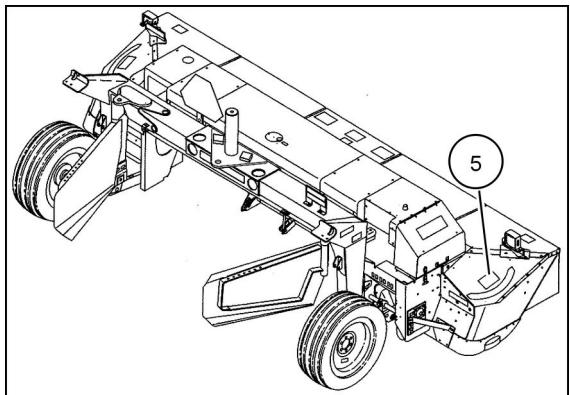
86628571 16

(5) Located on the left-hand shield.



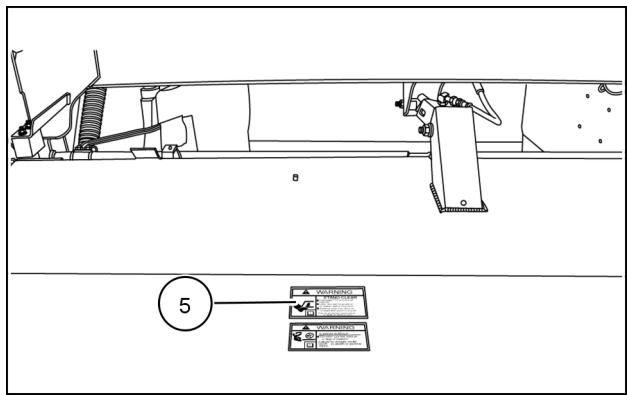
19997824A 17

(5) Located on the right-hand shield.



19997824 18

(5) Located on the front shield.



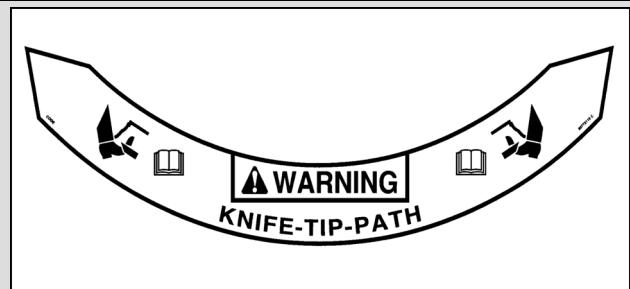
93105758 19

WARNING
KNIFE-TIP-PATH

While the equipment is in operation, stand clear of the knife path.

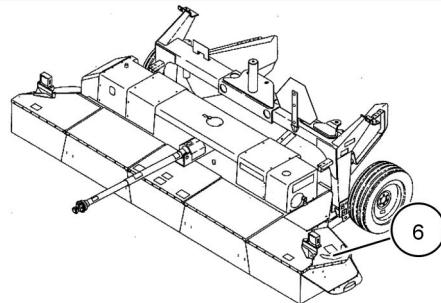
Failure to comply could result in death or serious injury.

Quantity: 2
English 80772110
French 791403
Spanish 86528619



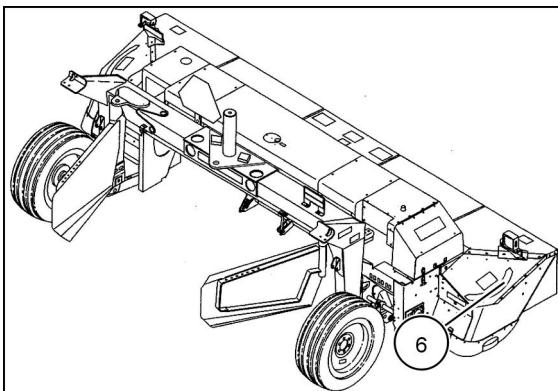
80772110 20

(6) Located on the left-hand side shield.



19997824A 21

(6) Located on the right-hand side shield.



19997824 22

DANGER**ROTATING DRIVELINE
DO NOT OPERATE WITHOUT**

All driveline, tractor and equipment shields in place.
 Drivelines securely attached at both ends.
 Drivelines shields that turn freely on driveline.
 Failure to comply will result in death or serious
 injury.

Quantity: 2
 English 849471
 French 849482
 Spanish 9801260

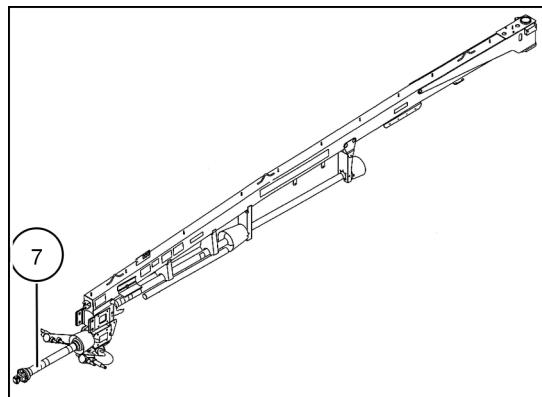
**ROTATING DRIVELINE
DO NOT OPERATE WITHOUT**

- All driveline, tractor and equipment shields in place.
- Drivelines securely attached at both ends.
- Drivelines shields that turn freely on driveline.

Failure to comply will result
 in death or serious injury.
code 849471_E

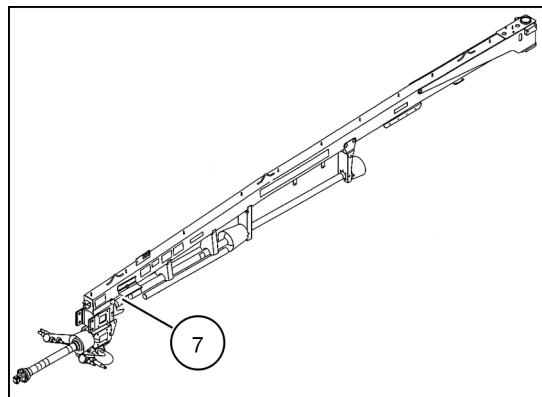
849471_E2 23

(7) Located on the primary PTO cover.



19996713A 24

(7) Located on the secondary PTO cover.



19996713A 25

Part No. 770033

DANGER
SHIELD MISSING
DO NOT OPERATE

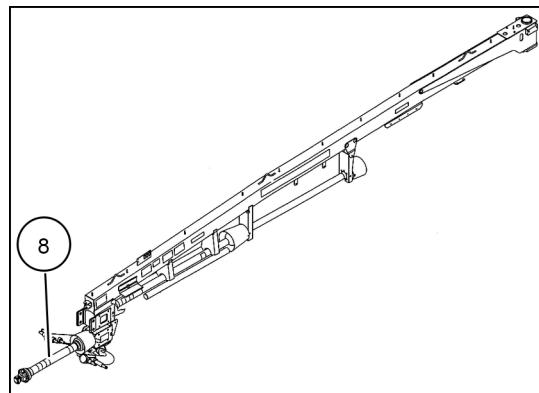
The shield has been removed, do not operate this unit.

Failure to comply will result in death or serious injury.

Quantity: 2
English 849472
French 849483
Spanish 9801256

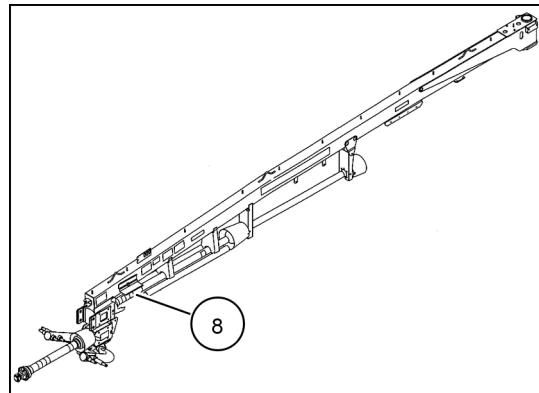


(8) Located on the primary PTO cover.



19996713A 27

(8) Located on the secondary PTO cover.



19996713A 28

WARNING

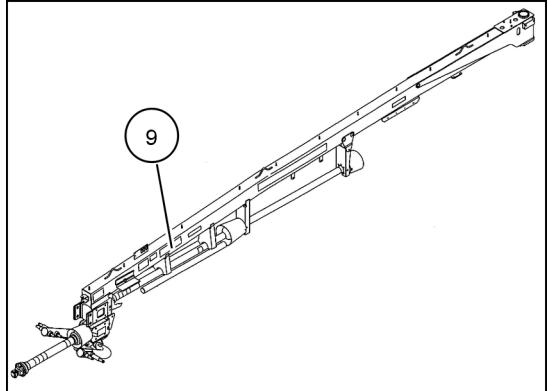
Tractor, PTO and component shielding MUST be in place when PTO is engaged.
Failure to comply could result in death or serious injury.

Quantity: 1
87041061
French 87042013
Spanish 87042014



87049205 29

(9) Located on the front of tongue.



19996713A 30

WARNING

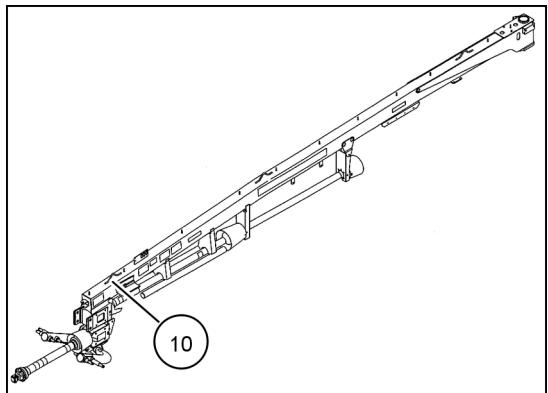
Properly prepare machine for transport / roading.
20 mph [32 kph] - MAX. road speed.
Towing unit must be equipped with compatible electrical connections to operate lights.
Towing unit must weigh at least .67 x weight of towed machine.
Use caution when making turns to avoid loss of control.
Failure to comply could result in death or serious injury.

Quantity: 1
87041060
French 87042011
Spanish 87042012



87041060 31

(10) Located on the front left—hand side of tongue.

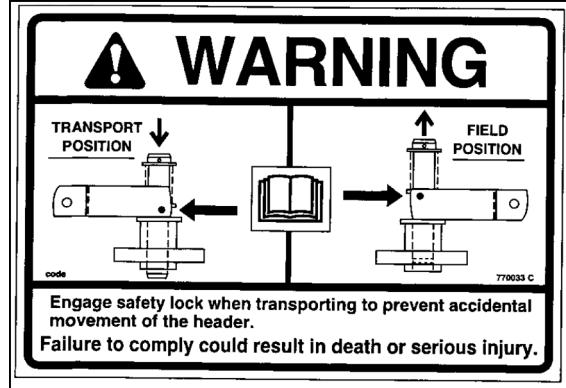


19996713A 32

WARNING

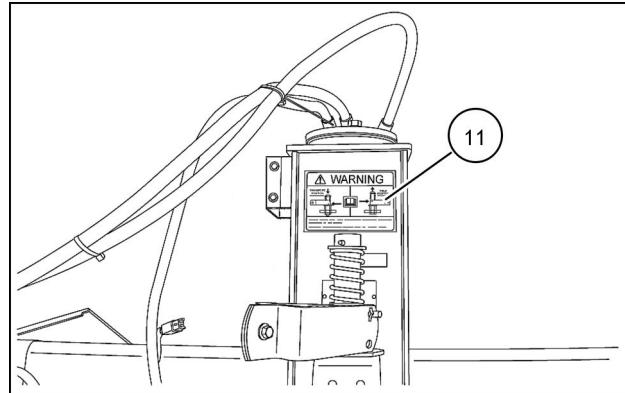
Engage safety lock when transporting to prevent
accidental movement of the header.
Failure to comply could result in death or serious
injury.

Quantity: 2
English 770033



770033 33

(11) Located on the rear of the tongue.



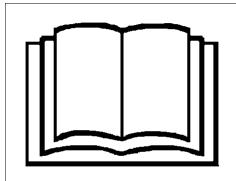
1N0D20110583113 34

Road travel signs and decals

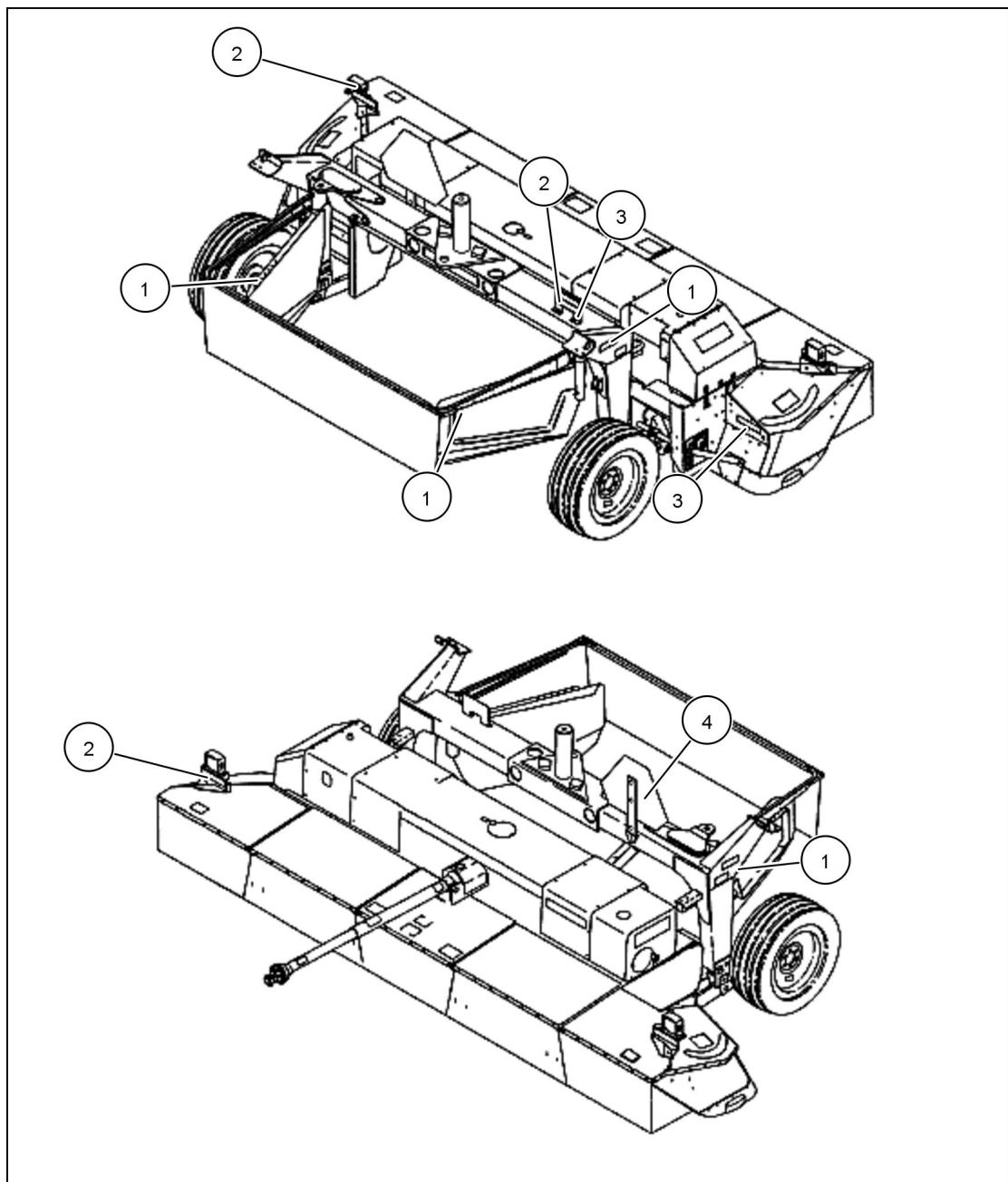
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19996712 1

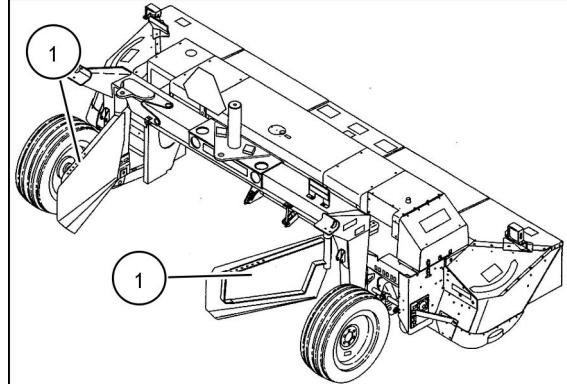
Tape, Yellow reflective (1)
Used for extra visibility to oncoming vehicles.

Quantity: 4
English 86547782

86547782-YELLOW 2

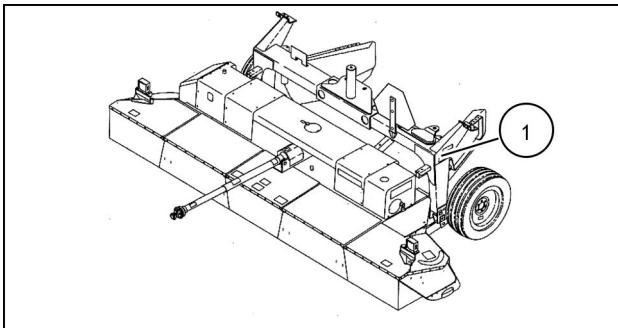
(1) Located on the outer left—hand side of windrow shield.

(1) Located on the outer right—hand side of windrow shield.



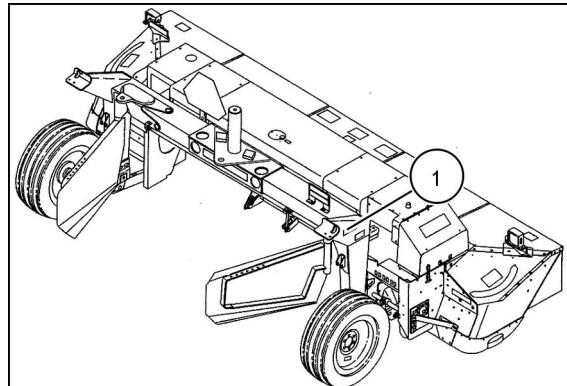
19997824 3

(1) Located on the left—hand side of trailframe.



19997824A 4

(1) Located on the right—hand side of trailframe.



19997824 5

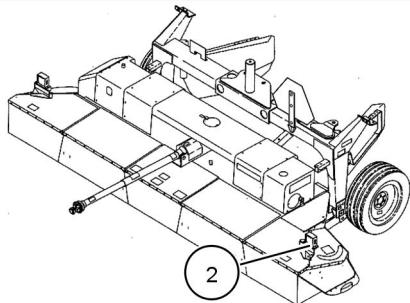
Tape, Red reflective (2)

Used for extra visibility to oncoming vehicles.

Quantity: 3
English 86547781

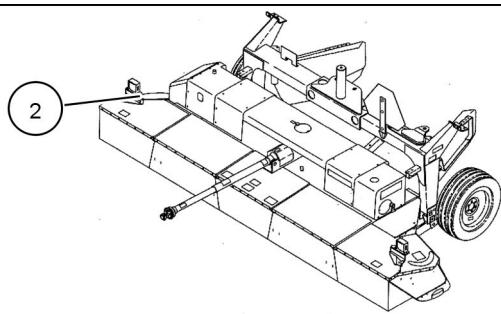
86547781-RED-GR 6

(2) Located on the front left-hand side of cutter shield.



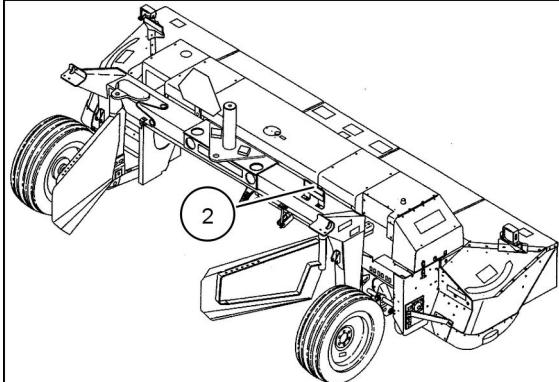
19997824A 7

(2) Located on the front right-hand side of cutter shield.



19997824A 8

(2) Located on the center right-hand side of trailframe.



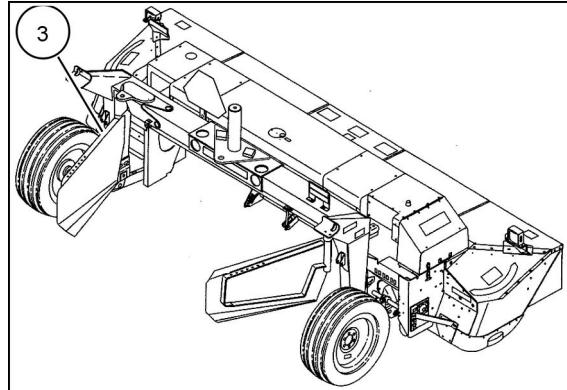
19997824 9

Tape, Red-Orange reflective (3).
Used for extra visibility to oncoming vehicles.

Quantity: 3
English 86547783

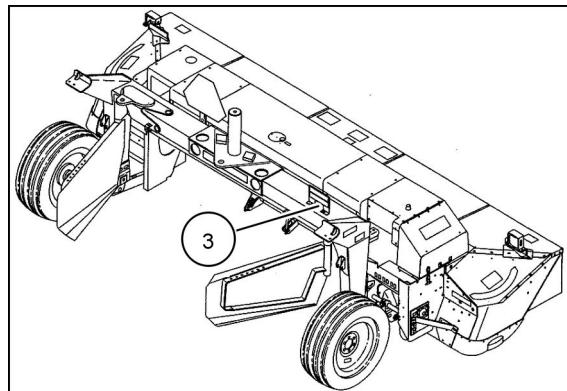
86547781-RED-GR 10

(3) Located at the left—hand side of the trailframe.



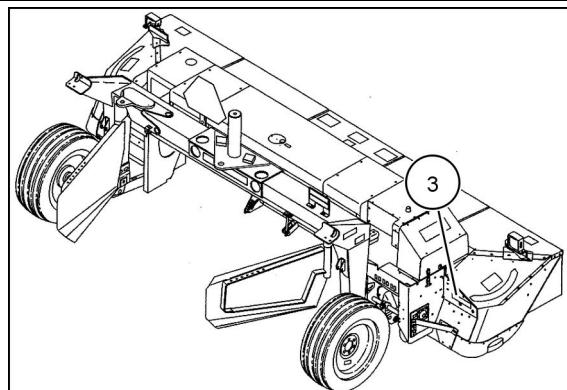
19997824 11

(3) Located on the center right-hand side of trailframe.



19997824 12

(3) Located on the right—hand side of the rear cutter shield.

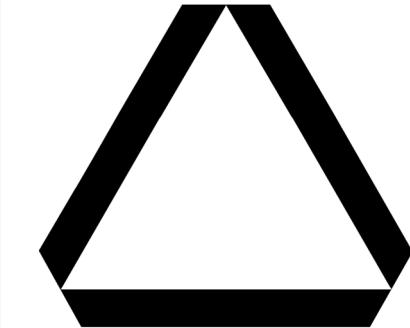


19997824 13

Slow-moving vehicle sign

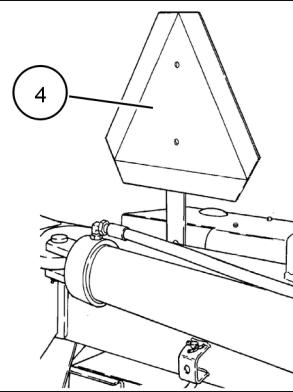
Used to notify oncoming vehicles of low speed.

Quantity: 1
English 86547710



86547710-A 14

(4) Located at rear left-hand side of trail frame.



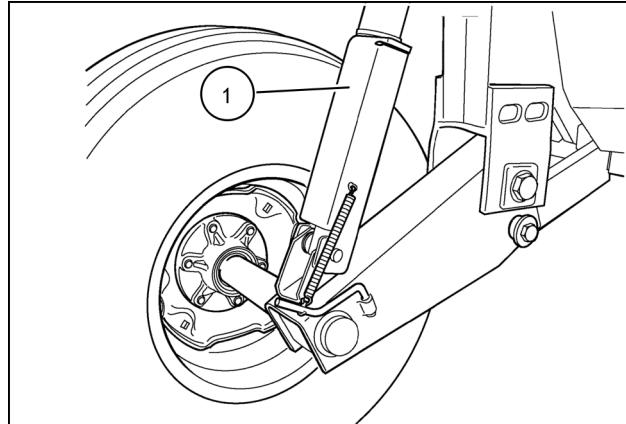
1431-2-37N 15

3 - TRANSPORT OPERATIONS

ROAD TRANSPORT

Towing with a tractor

1. Ensure the unit is securely attached to an appropriately sized tractor. Refer to "Attaching the Disc Mower-Conditioner to the Tractor" section of this manual.
2. Raise the header. Engage the header lift locks (1).



50051189A 1

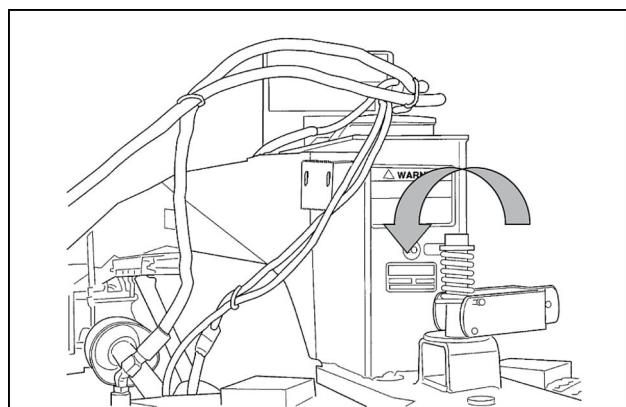
3. Rotate the tongue transport lock bracket up and over (one half turn) so that the transport lockpin is spring loaded downwards. Shift the machine into the transport (center) position so that the tongue transport lockpin engages in the trail frame.

⚠ WARNING

Transport hazard!

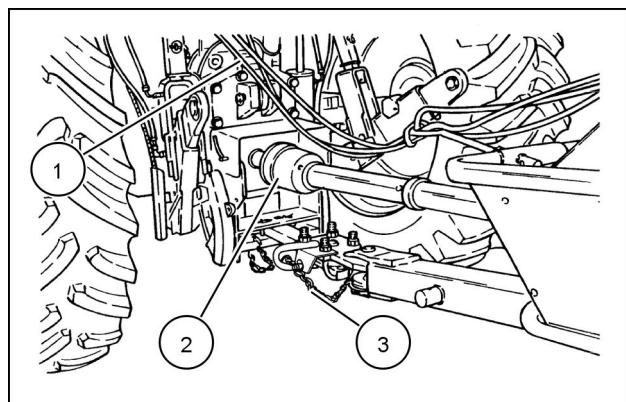
ALWAYS engage the header lift locks and the tongue swing cylinder lock during transport. If the locks are disengaged during transport and you accidentally engage the tractor hydraulics, the machine may drop onto the ground or swing to the right into roadside obstacles, oncoming traffic, or ditches.

Failure to comply could result in death or serious injury.



199985197NNB 2

4. Leave the hydraulic hoses (1) and PTO shaft (2) connected to the tractor or be sure they are positioned in the hanger and secured to prevent damage. If PTO shaft is positioned in the hanger, remove the front half of the PTO shaft to prevent damage to the shaft.
5. When towing the disc mower-conditioner on a road or highway, ensure that the flashing lights harness is attached to the tractor, and the lights are functioning to adequately warn operators of other vehicles. Consult local governmental regulations for specific lighting requirements.
6. Use a safety chain (3) when transporting the standard tongue unit on a public highway. The safety chain is intended to keep the machine under control in the event of loss or failure of the hitch pin. A safety chain is available through your authorized dealer.



1431-2-02RN 3

4 - WORKING OPERATIONS

GENERAL INFORMATION

Before operating check

After the disc mower-conditioner has been lubricated, attached to the tractor, and adjusted correctly, it is ready for field operation. Refer to other sections of this manual for the above information.

⚠ WARNING

Moving parts!

Disengage the Power Take-Off (PTO), turn off the engine, and remove the key. Wait for all movement to stop before leaving the operator's position. Never adjust, lubricate, clean, or unplug machine with the engine running. Failure to comply could result in death or serious injury.

W0112A

⚠ WARNING

Flying objects! Machines with rotary discs can fling foreign objects toward the operator. The use of a tractor with an enclosed cab is recommended when operating a rotary disc cutting machine.

Failure to comply could result in death or serious injury.

W0191A

1. Read this manual carefully.
2. Be sure the tractor drawbar is adjusted properly.
3. Check the tire pressure: **207 kPa (30 psi)**.
4. Check the wheel bolt torque before operating and also after the first two and ten hours of use. Torque the bolts to **156 N·m (115 lb ft)**. Recheck the wheel bolt torque after every 50 hours of use.
5. Be sure the machine is properly lubricated. Use this manual as a guide to be sure no grease fittings have been missed and all gearboxes are filled to the proper level.
6. Burnish the slip clutch to ensure it is not locked up, and is functioning properly. Refer to the "Maintenance" section of this manual for more information.
7. Do not overspeed the PTO or driveline damage may occur.
8. Before cutting: Operate the machine slowly for 15 minutes. Then check to be sure that no bearings or gearboxes are running hot. If no problems are detected, operate at rated PTO speed for 15 minutes, and recheck the bearings and gearboxes. If a bearing, bearing housing, or gearbox show signs of overheating or paint discoloration, contact your authorized dealer. Any problems should be corrected before using machine to cut crop.

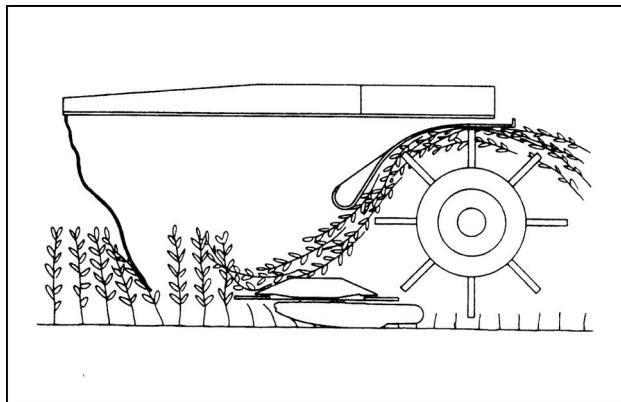
Before using your new disc mower-conditioner:

Theory of operation

Flail conditioning system

The flail conditioning consists of a single fixed mounting rotor assembly that carries free swinging cast gangs of flails and an adjustable conditioning hood. As the crop passes through the opening between the rotor and the hood, the action of the crop rubbing against the flails and hood combine to scuff the crop stems, stripping the waxy coating from the stem and allowing moisture to escape.

Conditioning level is determined by the amount of clearance between the flails and conditioning hood, flail rotor speed and the type of hood liner. Moving the hood closer to the flails increases the conditioning. Moving the hood away from the flails decreases conditioning.

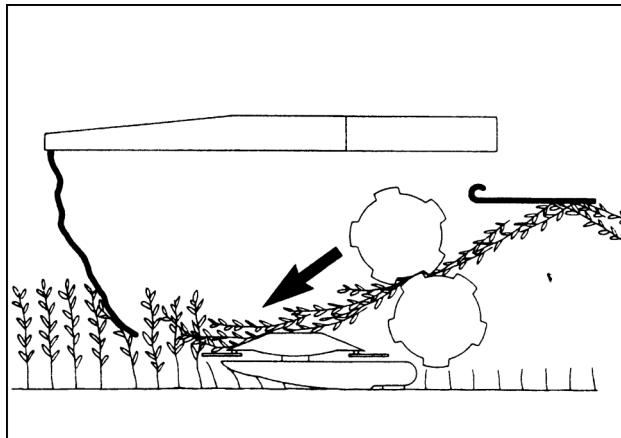


20106230N 1

Roll conditioning system

Roll conditioning passes the cut crop through a set of closely spaced intermeshing rolls with matching lands and valleys. The rolls crush and crack the plant stem at several points along its length, which wears away the waxy coating and allows moisture to escape.

- There are two rolls in roll conditioning.
- The lower roll is fixed in the machine.
- The upper roll can pivot to let the crop mat feed through the rolls without plugging.
- Roll gap and roll tension affect crop conditioning.
- See below for more information.



19988033 2

Roll gap

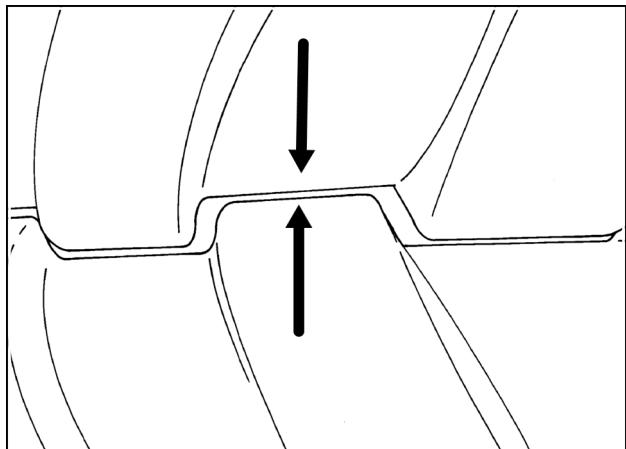
The roll gap is the space between the land of one roll and valley of the opposite conditioning roll. This space should be kept between **0.4 - 3 mm (1/64 - 1/8 in)** for rubber rolls and **5 - 7 mm (0.20 - 0.28 in)** for steel rolls to provide the best performance.

To check the roll gap easily and quickly in the field, use the 'one stem method'. Take one stem of the crop being cut and pass it between the rolls at three or four points across the roll width. The stem should move between the rolls, but with some resistance. If the stem passes through the gap with little or no resistance, the gap should be reset closer.

If you cannot pass the stem between the rolls at all, the gap should be increased slightly. To get peak machine performance and efficiency, check the roll gap before each cutting during the season, and also when cutting different forage crops because each crop will be different.

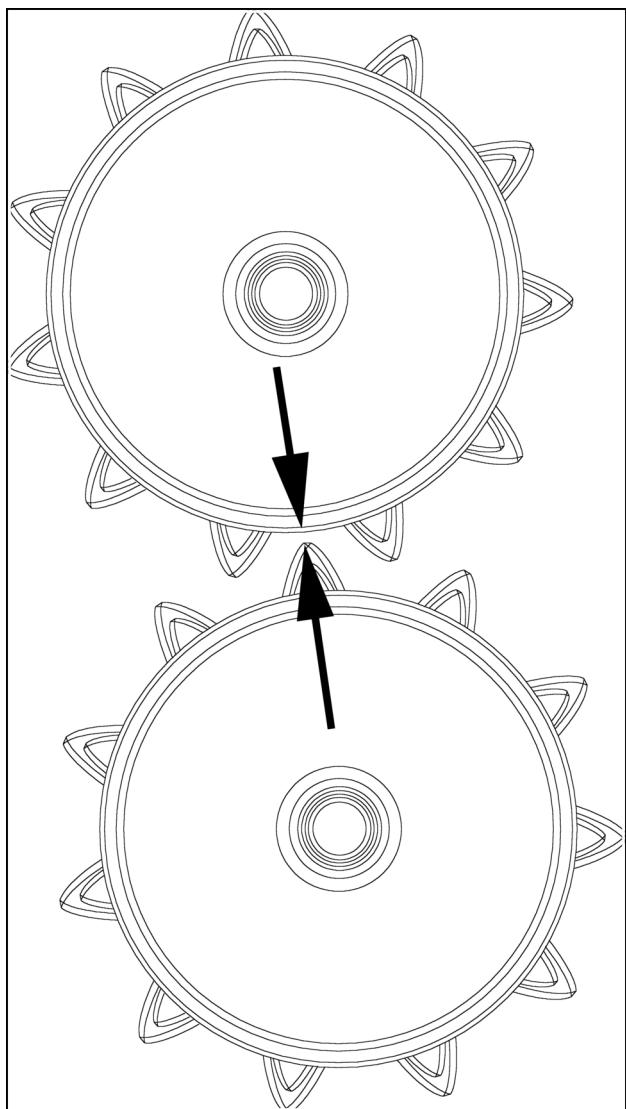
In high volume crops like Sudan grass and other cane-type crops, increase the roll gap slightly to get better crop flow through the rolls without sacrificing good crop conditioning. The lands and valleys should be centered to maintain a uniform distance on all sides of the lands.

Rubber roll configuration



50051187 3

Steel roll configuration



50011826 4

Roll tension

After setting the roll gap, adjust the roll tension. Roll tension is the amount of pressure added to restrict upper roll movement as the crop feeds through the rolls. Hard-to-condition crops require more tension. Light and easily-conditioned crops require less tension. Higher roll tensions increase the pressure exerted on the crop mat as it moves between the lands and valleys, increasing the ability of the rolls to crack and wear the stem away. Higher roll tensions result in more aggressive crop conditioning because the rolls become more resistant to spreading apart as the crop is fed through.

Torsion bar tensioning system

The torsion bar tensioning system maintains uniform pressure throughout the range of roll movement as the crop mat passes through, providing better control and reducing potential crop plugging. In most conditions, a good starting point for tension on intermeshing rolls is to increase the roll tension by turning the adjusting crank 8 full turns after you start to feel resistance on the crank handle.

Too large a roll gap or too little roll tension under-conditions the crop, resulting in extended dry down times and increased potential for weather-related damage. Too close a roll gap or too much roll tension can severely over-condition the crop, breaking the tops away from the plants and causing excessive leaf loss. It can also cause excessive wear of the conditioning rolls if they touch while turning.

Properly conditioned crop

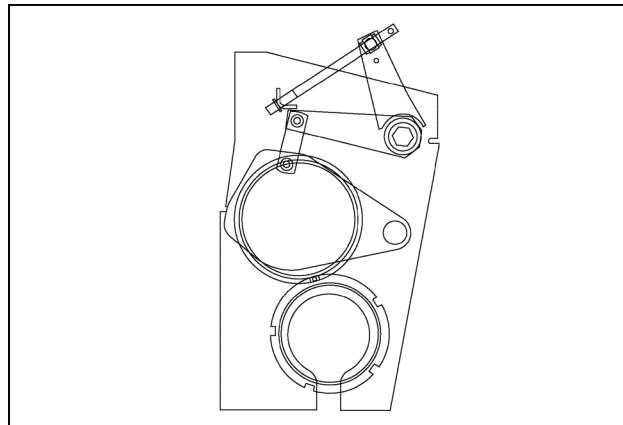
Properly conditioned crops will show a pattern of cracks at regular intervals along the plant stem. Each crack will be about **25 - 50 mm (1 - 2 in)** in length. The stem should look flat in these cracked areas. Depending on crop height when cut, there will be at least two or three cracks along the plant length. The plant leaves should show only minimal bruising. Leaf bruising is characterized by dark green streaks or marks across the leaf surface. While some leaf bruising can't be avoided, too much bruising is not good because the bruises allow moisture to escape the leaf. When this occurs, the leaf dries too quickly, resulting in loss of the plant leaf before or during packaging. This in turn reduces the overall feed value of the crop.

Checking crop

As a general check, grab a handful of crop directly behind the machine after it has been processed and hold it in one hand. The plant stems should be fairly limp and just fold over your hand. Nine out of 10 stems in a random sample should show stem cracks. Inspect the leaves in the same random sample, and no more than **5 %** of the leaves should have bruising.

Rolls in home position

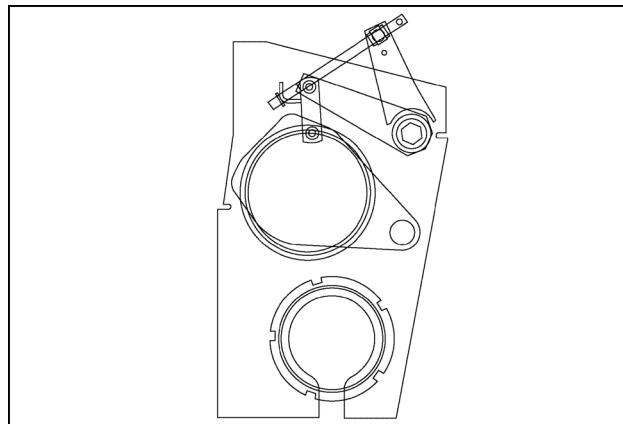
Rolls are at zero degrees (home position). Link is straight. This allows full pressure of torsion bar to be applied to top roll arm.



50051184 5

Rolls open at 15 degrees

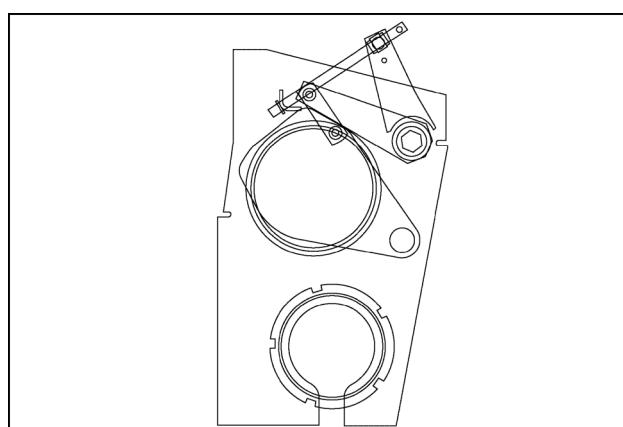
Rolls begin to open as crop enters conditioning system. Link starts to bend to rear while torsion bar maintains conditioning pressure.



50051185 6

Rolls fully open at 27.3 degrees

Rolls are now fully open due to crop slug or foreign object entering rolls. The link between torsion bar and top roll arm is no longer applying direct pressure to roll arm. Rolls are against stop link back with conditioning pressure now removed. Rolls will return to former position (with preset conditioning pressure) when object or slug passes through.



50051186 7

Transport lock

Rotate the transport lock bracket up and over (one half turn) so that the transport lock pin is spring loaded upwards. Shift the machine slightly so that the transport lock pin disengages from the trailframe.

The tractor hydraulics can now be used to pivot the machine into the field position.

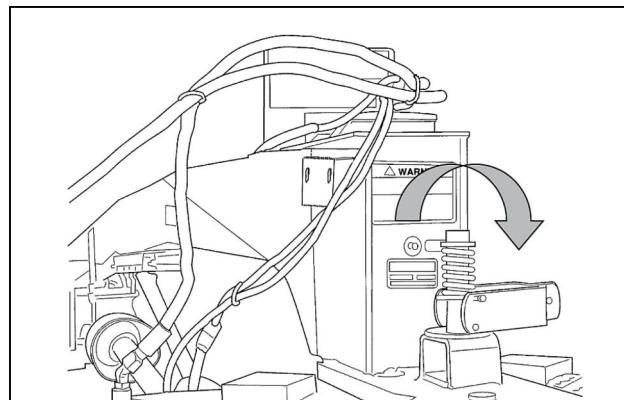
⚠ WARNING

Transport hazard!

ALWAYS engage the header lift locks and the tongue swing cylinder lock during transport.

If the locks are disengaged during transport and you accidentally engage the tractor hydraulics, the machine may drop onto the ground or swing to the right into roadside obstacles, oncoming traffic, or ditches.

Failure to comply could result in death or serious injury.



199985197NNA 1

W0235A

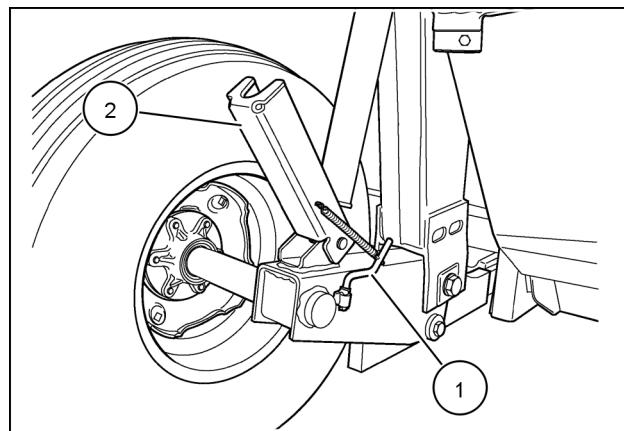
Header locks

To disengage header lift lock channel:

1. Raise machine with tractor hydraulics.
2. To disengage header lift lock channels, pivot both left and right lock levers (1) rearward. If the machine was raised first, channels (2) should move rearward.

NOTE: If the cylinders do not extend far enough to release the header lift locks, there may be air in the hydraulic system that must be purged. Refer to "Bleeding Air from the Lift Cylinders" in this section.

NOTICE: Always engage or disengage both header lift locks at a time. Lowering the unit with one lock engaged could cause damage to the unit.



50051190A 1

Lift cylinders

Lower the header to the ground before engaging the PTO.

⚠ WARNING

Entanglement hazard!

The Power Take-Off (PTO) guard must be in place for most operations to prevent death or injury while the PTO is operating. When attachments like pumps are attached to the PTO – where the guard is moved upward or removed – shielding equal to the PTO guard must be installed with the attachment.

Failure to comply could result in death or serious injury.

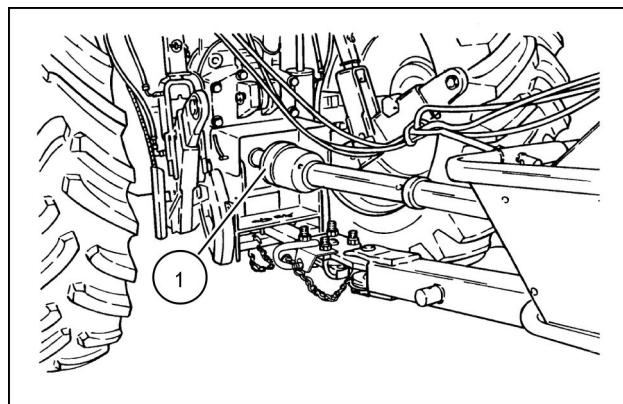
W0319A

NOTE: The tractor hydraulics must be put in the float position in order for the lift circuit to operate properly. Failure to use the float position may cause one side of the header to raise during field operation.

NOTE: If the lift cylinders do not lift the frame evenly or if one side lifts higher than the other, rephase the cylinders by lowering the disc mower-conditioner, and continue to hold the lever in the lower position for 10 to 15 seconds, or raise the disc mower-conditioner and continue to hold the lever in the raise position for 10 to 15 seconds.

PTO

To reduce strain on driveline components, engage the tractor PTO (1) at a low engine speed and slowly raise it to operating PTO speed.



1431-2-02RN 1

NOTICE: Operating at excessive PTO speeds may cause excessive wear, vibration, and breakdowns.

Opening fields

⚠ WARNING

Flying objects! Machines with rotary discs can fling foreign objects toward the operator.

Keep all skirts and shields in place.

Failure to comply could result in death or serious injury.

W0024A

The field may be opened with the disc mower-conditioner in the same manner as with other pivot tongue units. The first swath can be cut with the header on either side of the tractor. Cut the back swath in the opposite direction in order to pick up more of the crop that was run down by the tractor tires; reduce ground speed when cutting the back swath to pick up most of the crop.

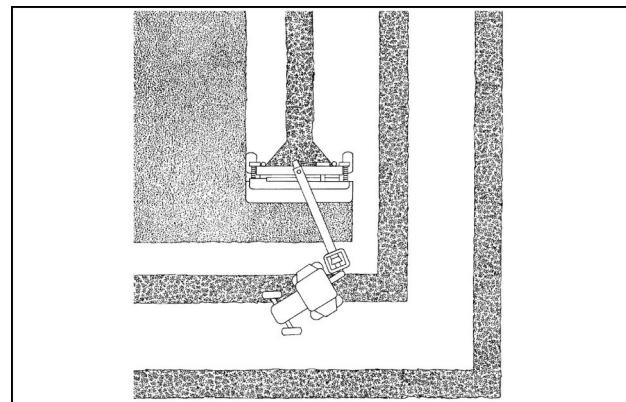
Run the side of the header close to the edge of the standing crop for maximum cutting efficiency. If less than a full cut is taken, it is normal to see recut short material blown forward under the skirting alongside the standing crop.

Field cutting

NOTICE: Do not operate PTO in transport position. Driveline and PTO damage may occur.

1. To cut square corners:

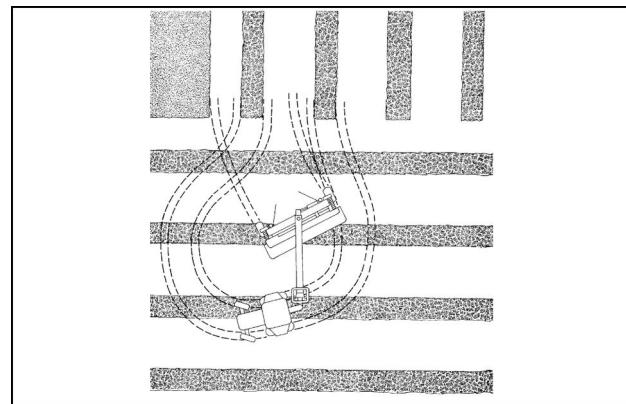
- Start turning the tractor after the rear wheels pass the edge of the standing crop. At the same time, swing the header toward the tractor, using the swing cylinder control lever and at a rate required to maintain straight line travel of the header to the end of cut. Do not raise the header.
- When the turn is nearly completed, swing the header away from the tractor so that it is aligned with the standing crop. With practice, corners can be cut without leaving standing crop.



20106231N 1

2. To cut back and forth:

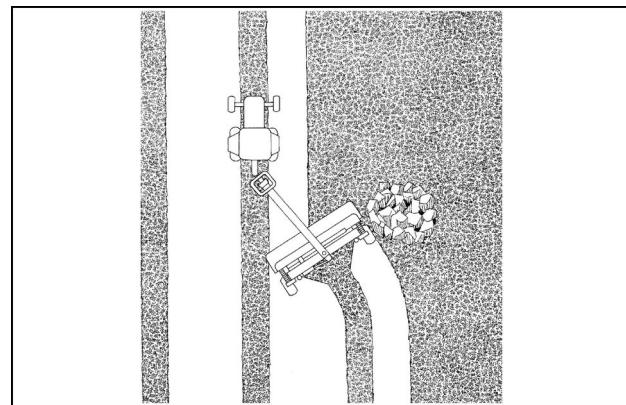
- First cut three to four swaths (swivel hitch tongue), or five to six swaths (standard tongue), around the field to open the field. Then cut back and forth on one side of the field. Raise the header after each swath and shift the header to the other side of the tractor while turning. This positions the tongue away from the inside tractor tire, allowing for a sharper turning radius. With practice, the header can be shifted to the opposite side of the tractor in steps, during the turn, to make a short radius turn without missing standing crop.



20106232N 2

3. To maneuver around obstacles in the field:

- As the unit approaches the obstacle, swing the header towards the tractor, away from the obstacle. Be sure to allow enough time for the machine to pivot and track away from the obstacle.
- Straighten out the unit while passing the obstacle, to avoid running the header more than necessary into the previously cut crop. Once past the obstacle, swing the header fully back into the standing crop.



20106233N 3

- On the next round, steer the tractor around the obstacle. While steering the tractor, swing the header towards the tractor to keep it following the cut line as long as possible. Center the unit behind the tractor while passing the obstacle. As the tractor exits the uncut crop, gradually steer the header away from the tractor to keep it in the standing crop.

4. To cut oversquare corners:

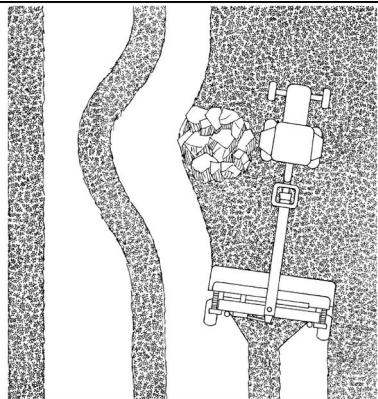
- While approaching a sharply angled corner, gradually swing the header towards the tractor, to keep the unit positioned between the previously cut windrows. As the header comes out of the standing crop, raise the header and turn the tractor to the right; continue to swing the unit towards the left, as this will move the tongue away from the tractor tire to allow sharper turning.
- When the turn is nearly completed, swing the header away from the tractor so that it is aligned with the standing crop, and centered between the previously cut windrows. Lower the header into the crop, and gradually swing the header fully into the standing crop.

NOTE: *Maintain full PTO speed when crossing previously cut windrows, even if the header is fully raised. Failure to do so may cause cutter bar and/or conditioner roll plugging.*

The ground speed capabilities are variable, depending on field terrain and crop conditions. Generally, **6.4 - 9.6 km/h (4 - 6 mph)** yields good results. Slower speeds may be necessary depending on crop conditions, tractor horsepower, and terrain. In light, easy to cut crops and smooth fields, higher speeds are possible.

NOTICE: *Adjust the tractor ground speed by changing gears. Do not adjust ground speeds by moving the tractor throttle from the proper PTO speed. Do not overspeed the PTO or driveline damage may occur.*

If the machine vibrates, STOP OPERATION IMMEDIATELY. Determine and correct the cause of the vibration before continuing operation. FAILURE TO DO THIS WILL CAUSE SERIOUS DAMAGE TO THE UNIT.



20106234N 4

⚠ WARNING

Flying objects! Machines with rotary discs can fling foreign objects toward the operator. Keep all skirts and shields in place. Failure to comply could result in death or serious injury.

W0024A

⚠ WARNING

Moving parts! Shut off the tractor and allow the rotating discs to stop moving before leaving the machine or attempting to remove material from the disc mower. Failure to comply could result in death or serious injury.

W0405A

The disc mower-conditioner is intended for use in difficult cutting conditions. The knife speed is approximately **298 km/h (185 mph)** and relies on plant stem integrity and strength to cut. The cutter bar operates on an impact cutting principle.

The high centrifugal force of the knife could cause crop blowdown in light or thin crops, resulting in uncut strips, or streaks. In light or thin crops, cutting a shorter stubble will sometimes reduce streaking. Do not tilt the cutter bar for a shorter stubble in stony fields.

NOTICE: Take extra precautions to prevent accumulation of baler twine or wire in fields to be cut. Twine and wire may wrap beneath the discs and overheat the disc bearings and/or damage shaft seals causing oil loss and possible module failure.

NOTICE: Tilt the cutter bar back in fields where stones and foreign objects are present, to raise the cutting knives and minimize debris deflected from the knives and reduce knife damage.

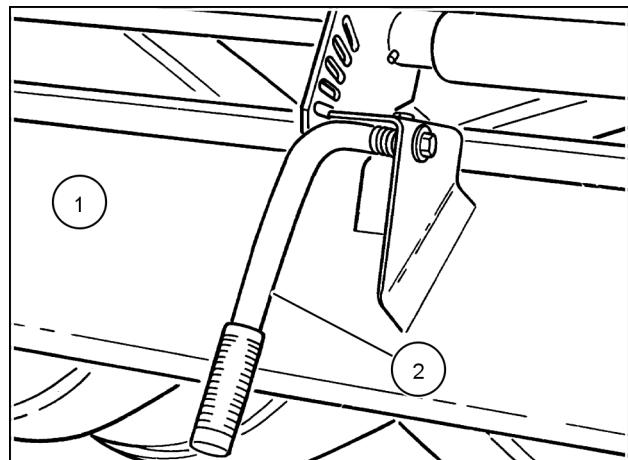
The cutter bar may plug with dirt and debris between the stone guards when operating in newly planted fields with soft loose soil. This plugging may cause streaking to occur. Tilt the cutter bar back to minimum tilt position (horizontal) and lighten header flotation to reduce plugging in these conditions; clean the cutter bar off frequently to avoid unnecessary knife and disc wear. In severe conditions, install the high stubble kit to increase the cutting height.

When cutting in bedded or corrugated hay fields, position the unit so the tires are on top of the field, and not in the corrugations, to prevent cutter bar plugging and lack of header flotation. Tilt the cutter bar back to minimum tilt position (horizontal) to prevent bulldozing.

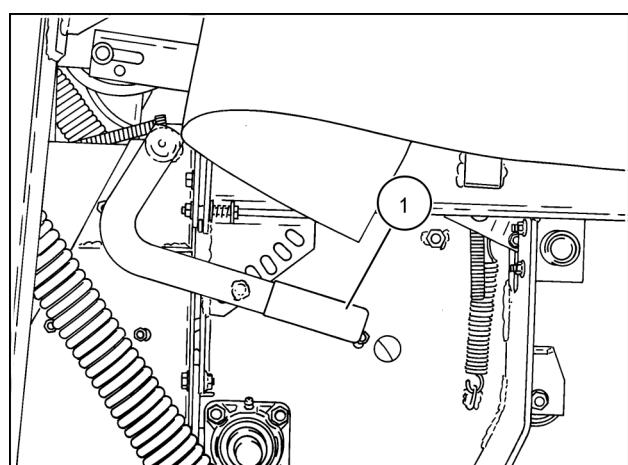
Swathing

Material from the disc mower-conditioner can be deposited in a wide swath for fast even drying by lowering the swath gate (1). Move handle (2) to the desired setting.

Roll conditioning

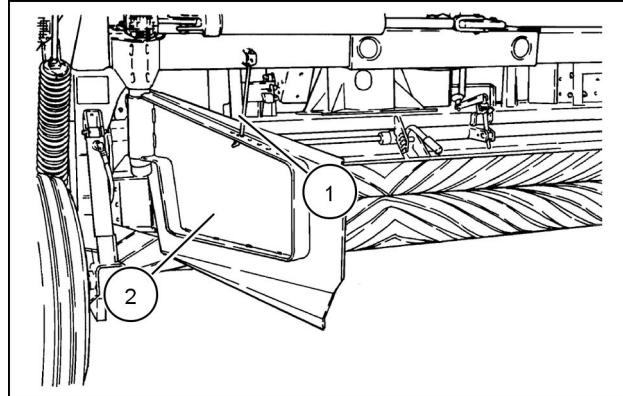


Flail conditioning



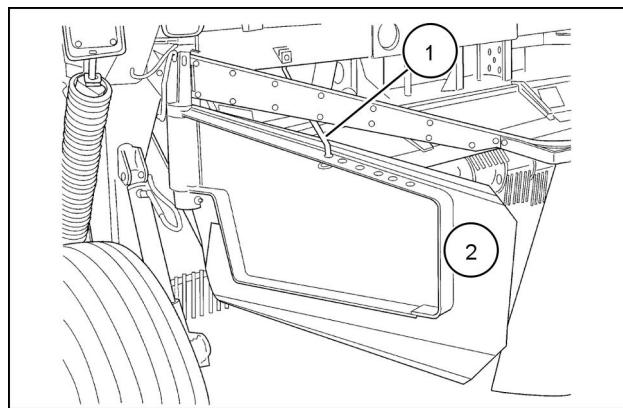
Move rods (1) to reposition the windrow shields (2) to obtain the desired swath width.

Roll conditioning



1431-2-40N 3

Flail conditioning



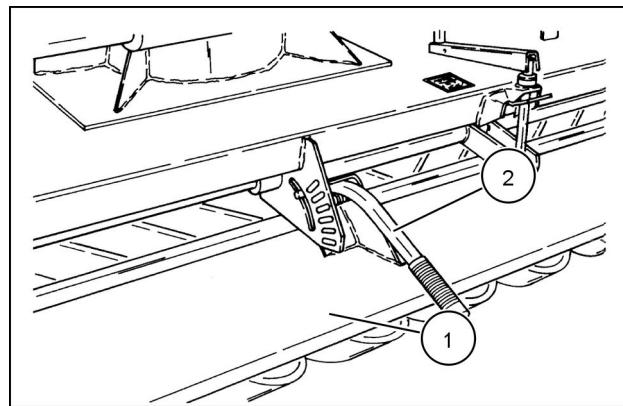
19985223N 4

Windrowing

Material from the disc mower-conditioner can be deposited in a windrow by raising the swath gate (1) allowing crop to flow into the windrow shields. Move handle (2) to the desired setting.

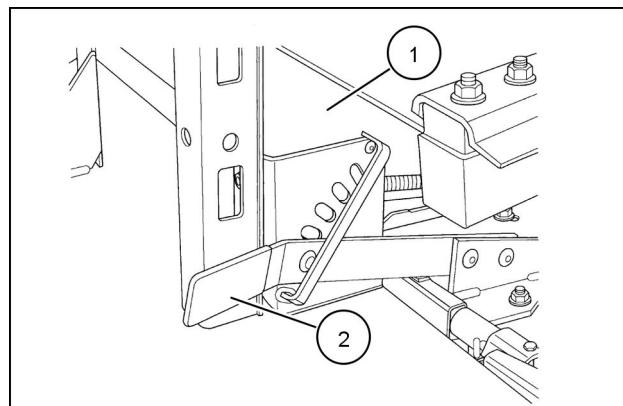
NOTE: A more uniform windrow can be made by leaving the swathgate in the mid-position and set the windrow width by adjusting the windrow shields.

Roll conditioning



1431-2-25N 1

Flail conditioning

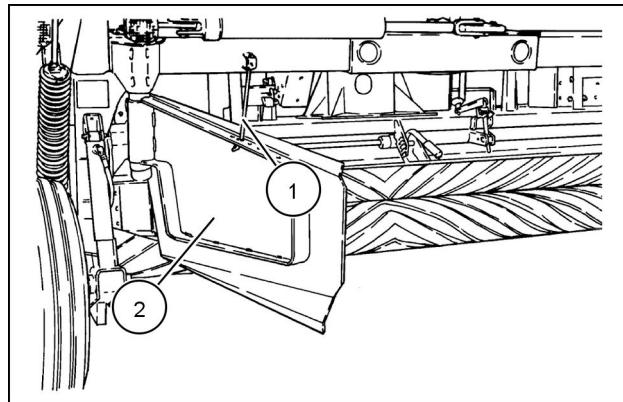


19985215N 2

Move rods (1) to reposition the windrow shields (2) to obtain the desired windrow width.

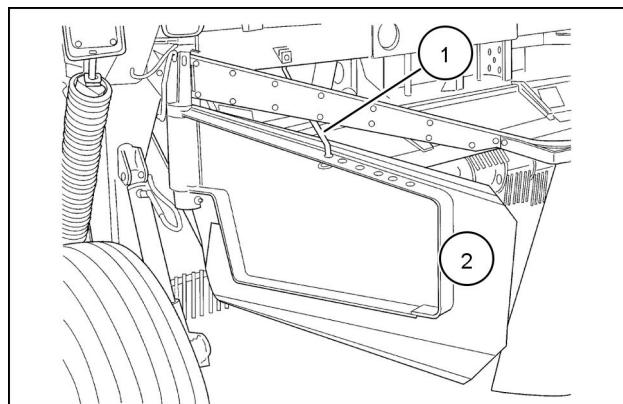
NOTE: *Roll conditioning - To avoid conditioner roll plugging in heavy high volume crops, the swath gate should be positioned as high as possible to minimize restriction of the crop flow from the conditioning rolls.*

Roll conditioning



1431-2-40N 3

Flail conditioning

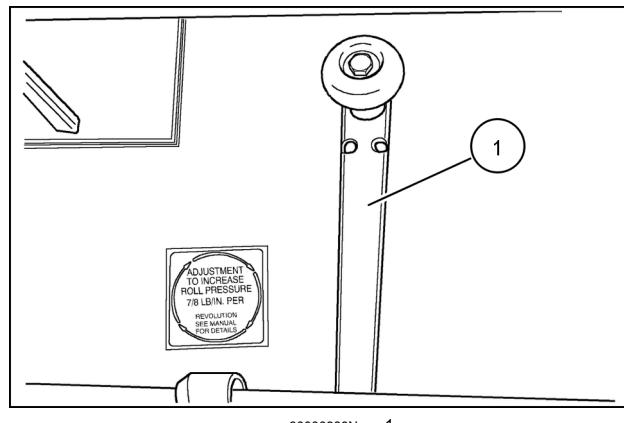


19985223N 4

Conditioning (roll pressure) - Roll conditioning

Adjust the roll pressure with crank (1). Turn crank clockwise to increase the roll pressure. Apply only sufficient pressure to crack the stems, with minimal damage to the leaves. Overconditioning will result in leaves overdrying and shattering, increased power requirements, and increased driveline wear.

Relatch the handle clip into retainer notch.



30000980N 1

Unplugging the conditioner rolls

1. If the conditioner rolls plug or wrap with crop, the slip clutch should operate to protect the driveline. Stop the forward movement of the tractor and shut off the PTO.

NOTICE: *The slip clutch will be damaged if it is slipped for more than a few seconds.*

2. Raise the header, back up away from the uncut crop, engage the transport stops. Shut off the tractor engine and lock the brakes.
3. Clean material off the cutter bar.
4. Relieve roll pressure by turning the adjustment crank counter-clockwise, and pull as much material as possible from the front and behind the rolls.

⚠ WARNING

Unexpected movement!

Roll pressure could cause the top conditioner roll to move downward suddenly. Relieve roll pressure before attempting to unplug the conditioner.

Failure to comply could result in death or serious injury.

W0406A

5. Rotate the machine in the opposite direction by using a bar in the cutter bar drive towers (1).
6. Clear all crop from in front of the conditioner rolls. Make sure no foreign objects are in the conditioner. Remove the bar (1) from the cutter bar end towers (2).
7. Start the tractor and, with the engine at 1/2 throttle, carefully engage the PTO. After the rolls clear, stop the unit and reapply roll pressure.

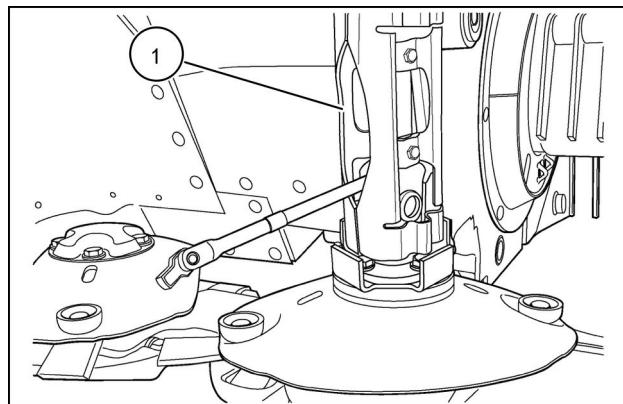
⚠ WARNING

Flying objects! Machines with rotary discs can fling foreign objects toward the operator.

Keep all skirts and shields in place.

Failure to comply could result in death or serious injury.

W0024A



36082800N 1

If rolls are still plugged, repeat the preceding steps.

If plugging continues, use this manual as a guide to check:

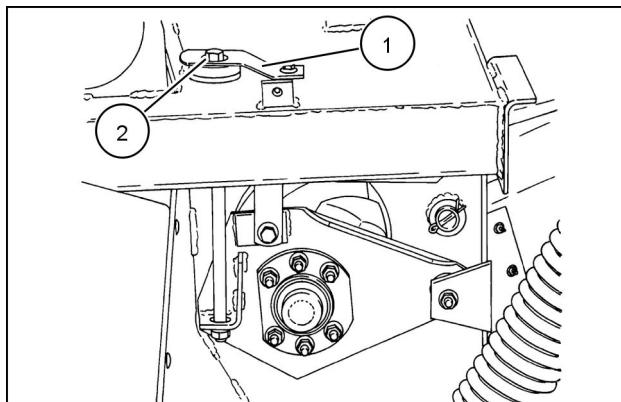
1. Tractor speed.
2. Condition of cutter bar knives.
3. Conditioner roll pressure and gap.
4. Conditioner belt tension.
5. Swathgate and windrow shield adjustments.

Roll gap

The roll gap is easily adjusted by raising lock plate (1), swing it to the side and rotating bolt (2) on each end of the header. The roll clearance will change approximately **2 mm (0.079 in)** per revolution of the bolt.

Be sure to reengage bolt lock plate (1) after adjustment is made.

NOTE: *The roll gap should be checked and adjusted, if necessary, after the first 50 and 100 acres of operation.*



4831-03N 1

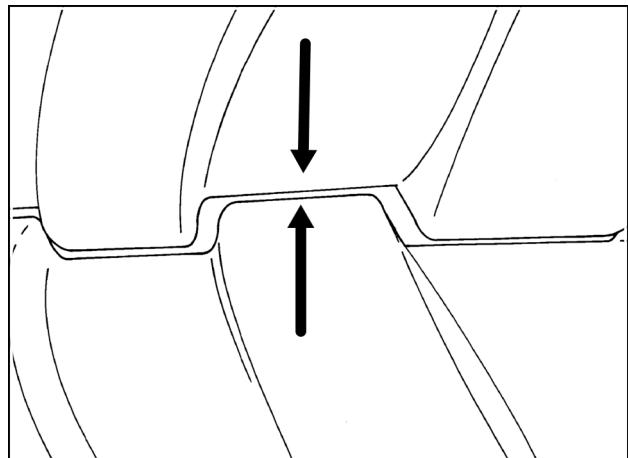
Under most crop conditions the roll gap should be maintained as close as possible usually **0.4 - 0.3 mm (1/64 - 1/8 in)** for rubber rolls, and **5 - 7 mm (0.20 - 0.28 in)** for steel rolls (2).

NOTICE: After adjustment, rotate the rolls by hand; they should never touch. Repeat previous procedure if necessary. Rolls that are touching will cause unit vibration and will wear prematurely.

NOTE: In certain cane type crops like Sorghum, Sudex, Sudan grass, it may be necessary to increase the roll gap in order to feed the crop through the rolls and/or prevent over conditioning of the stalks.

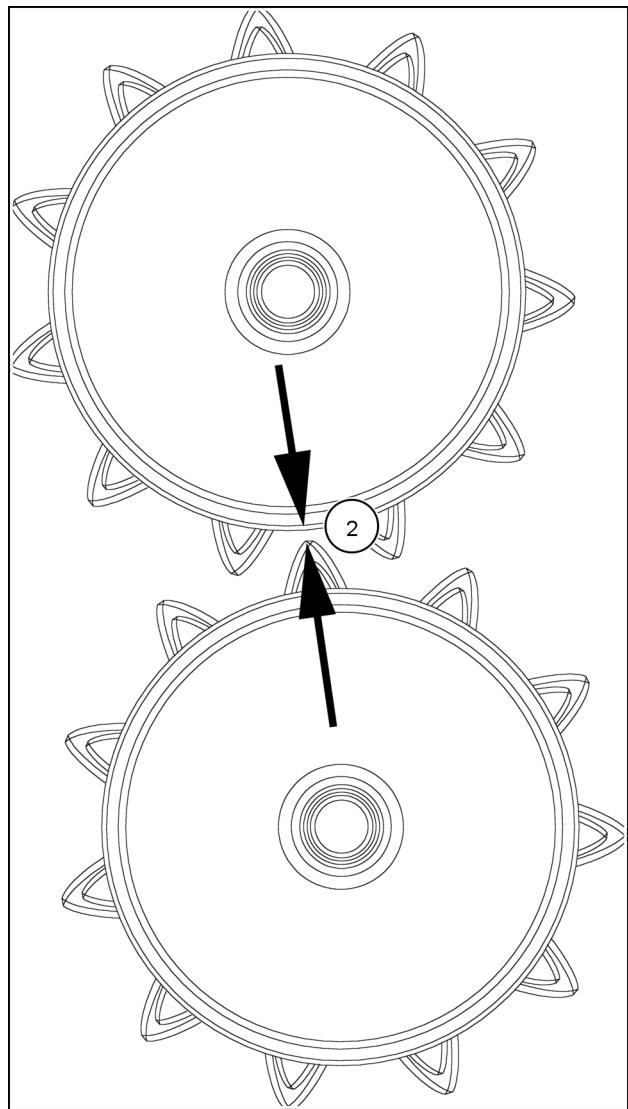
Refer to the "Maintenance" section in this manual for additional adjustment information.

Rubber roll configuration



50051187 2

Steel roll configuration



50011826 3

Conditioning hood adjustment - Flail conditioning

⚠ WARNING

Moving parts!

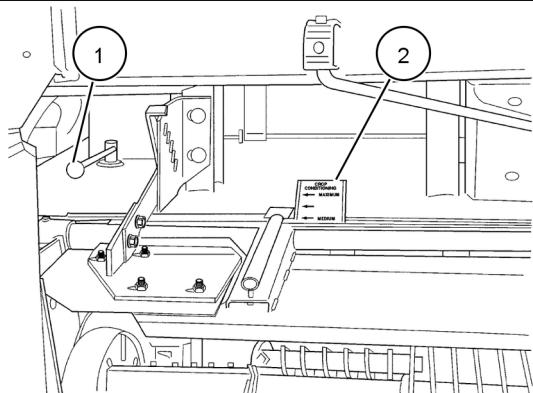
Disengage the Power Take-Off (PTO), turn off the engine, and remove the key. Wait for all movement to stop before leaving the operator's position. Never adjust, lubricate, clean, or unplug machine with the engine running. Failure to comply could result in death or serious injury.

W0112A

A hood is used above the flail conditioner to control, condition and direct the crop toward the rear of the unit. In light crop conditions, the hood can be moved closer to the conditioner to make sure that the flails are making contact with the crop stems. The hood position is controlled with a single crank (1) at the left side of the header.

A crop conditioning gauge (2) is mounted on the hood to indicate the relative position of the hood.

Turn the crank counter-clockwise to lower the hood. When the hood is lowered to the lowest position, maximum crop conditioning will occur. Turn the crank clockwise to raise the hood for minimum crop conditioning.



19985216N 1

Unplugging the rotor

Flail units only

⚠ DANGER

Crushing hazard!

Safety locks built into the header lift system lock the header in the raised position. Engage the safety locks on both sides before working under a raised header.

Failure to comply will result in death or serious injury.

D0029A

⚠ WARNING

Maintenance hazard!

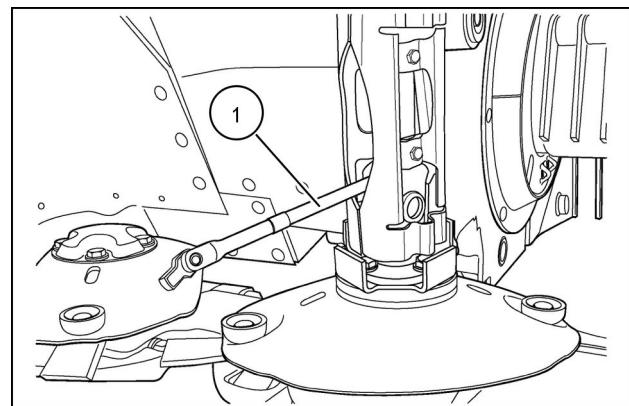
Replace all shields before operating the machine.

Failure to comply could result in death or serious injury.

W0234A

1. If the rotor would plug or wrap with crop, the slip clutch should operate to protect the driveline. Stop the forward movement of the tractor and shut off the PTO.

***NOTICE:** The slip clutch will be damaged if it is slipped for more than a few seconds.*
2. Raise the header, back up away from the uncut crop and engage the header lift locks. Shut off the tractor engine and set the parking brake.
3. Clean material off the cutter bar.
4. Raise the conditioning hood, by turning the hand crank counter-clockwise.
5. Rotate the machine in the opposite direction by using a bar in the cutter bar drive shaft tower (1).
6. Remove all crop from the rotor by cutting with a suitable device.
7. Clear all crop from in front of the rotor. Remove the bar from the cutter bar drive shaft tower (1). Make sure that no foreign objects are in front of the cutter bar or the flail rotor.
8. Start the tractor and, with the engine at 1/2 throttle, carefully engage the PTO. After the rotor turns freely, disengage the PTO, turn the tractor engine off, set the parking brake, and readjust the conditioning hood to the prior setting.
9. If the rotor plugging continues, use this manual as a guide to check:
 - Tractor speed.
 - Condition of cutter bar knives.
 - Position of the conditioning hood.
 - Conditioner belt tension.
 - Swathgate and windrow shield adjustment.



36082800N 1

Cutter bar flotation

▲ DANGER

Crushing hazard!

Safety locks built into the header lift system lock the header in the raised position. Engage the safety locks on both sides before working under a raised header.

Failure to comply will result in death or serious injury.

D0029A

NOTE: The cutter bar flotation should be checked and adjusted when using tractors with different drawbar heights, or when installing or removing the high stubble kit.

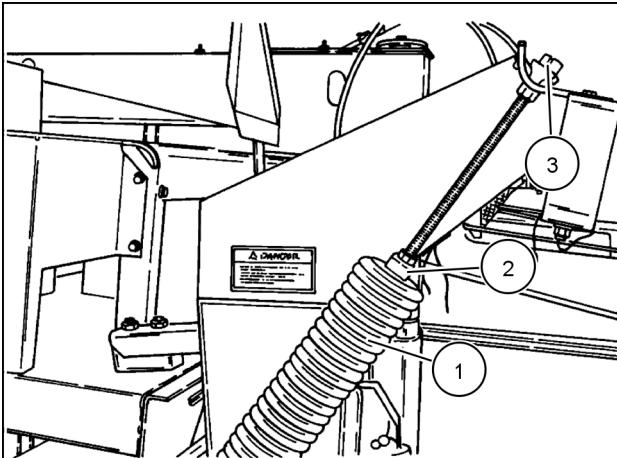
The cutter bar flotation is controlled by flotation springs (1) at each end of the header.

Adjust the cutter bar flotation for about **45 - 54 kg (99 - 119 lb)** at each end of the header if operating in rocky fields at lower **5 - 8 km/h (3 - 5 mph)** ground speeds. If the disc mower-conditioner is to be operated in relatively smooth fields at higher **8 - 11 km/h (5 - 7 mph)** ground speeds, it may be necessary to adjust the flotation to obtain **59 - 68 kg (130 - 150 lb)** weight on either end of the header to prevent excessive header bounce.

NOTICE: Do not exceed **68 kg (150 lb)** flotation force, or damage to the header may occur.

NOTE: The cutter bar flotation should be checked with the tongue positioned on each side of the header. The header weight should be adjusted so that the head stays on the ground.

Loosen the jam nuts (2). Turn adjusting bolts (3) as required. Check flotation with the header centered behind the tractor, lowered to the ground, and tilted for the desired cutting height.



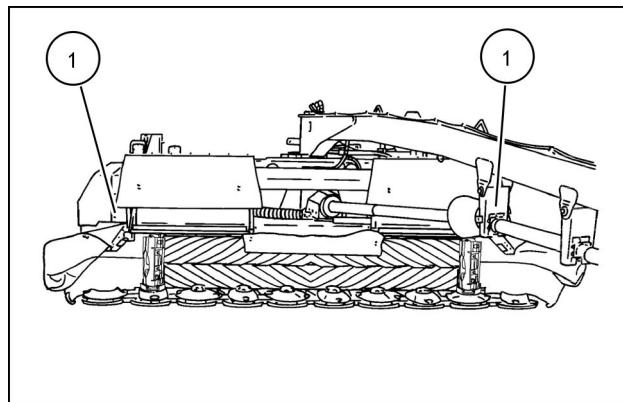
143120-01 1

Raise the cutter bar shields and lift on the left and right end supports (1). Operating with heavier than necessary weight results in side draft and excessive wear to cutter bar components. If the header is too light, long stubble results when the header does not quickly return to ground level after crossing a bump.

NOTE: Check flotation frequently, because crop and dirt buildup can cause the flotation force to change.

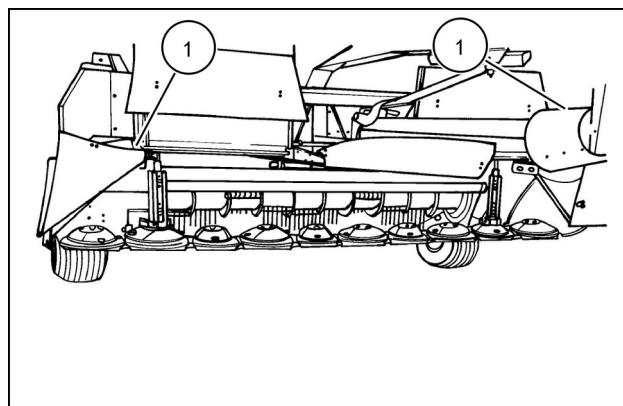
NOTE: Check flotation in the field operating position(s).

Roll conditioning



36082819N 2

Flail conditioning



19990667N 3

Cutting height

▲ DANGER

Crushing hazard!

Safety locks built into the header lift system lock the header in the raised position. Engage the safety locks on both sides before working under a raised header.

Failure to comply will result in death or serious injury.

D0029A

▲ WARNING

Moving parts!

Disengage the Power Take-Off (PTO), turn off the engine, and remove the key. Wait for all movement to stop before leaving the operator's position. Never adjust, lubricate, clean, or unplug machine with the engine running. Failure to comply could result in death or serious injury.

W0112A

The cutting height is adjustable by changing the header angle. The unit is equipped with a hydraulic tilt cylinder (1). The cylinder operates in conjunction with the lift cylinders. When the tractor lift valve is operated the tilt cylinder retracts, tilting the header back, the lift cylinders then raise the unit.

When the unit is lowered, the tilt cylinder will extend after the lift cylinders fully retract.

The header tilt can be limited to three positions by repositioning pin (2).

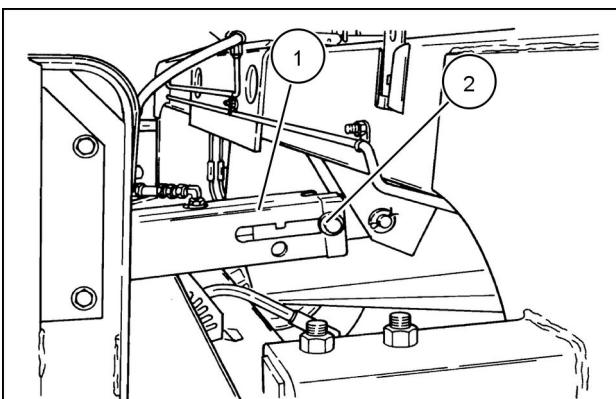
Minimum Tilt = approx. 76 mm (3 in) cutting height.

Mid Position = approx. 57 mm (2-1/4 in) cutting height.

Maximum Tilt = approx. 38 mm (1-1/2 in) cutting height.

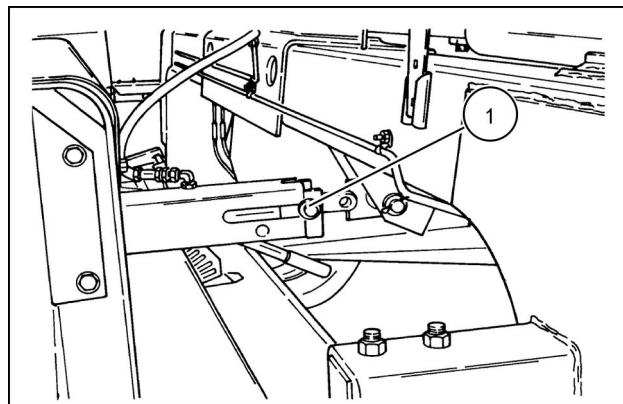
Tilt limiter pin (2) can be repositioned with the header raised and the tilt cylinder fully retracted. Be sure to reinstall the retaining clip.

For minimum header tilt, insert the pin through the plate slots and the rear rod hole. This position locks up the tilt cylinder, preventing the header from tilting.



1431-2-19N 1

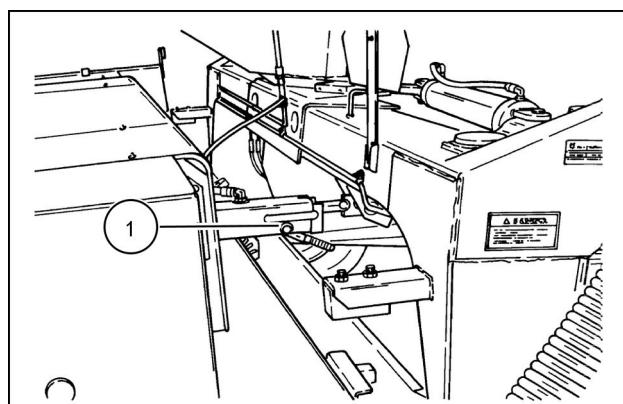
For mid position header tilt, insert the pin through the plate slots and the front rod hole (1). This position allows the tilt cylinder to extend the length of the slot in the channel, so the header tilts forward to a mid position.



1431-2-20N 2

For maximum header tilt, store pin in the lower plate holes (1). This position does not restrict the tilt cylinder stroke, and allows the header to tilt forward to the lowest cutting height.

If a stone or obstacle is seen when the machine is being operated in the mid or maximum position, the header angle can be retracted to minimum tilt position without lifting the header. Just move the tractor valve to the raise position long enough to retract the tilt cylinder. After the obstacle is passed extend the cylinder by moving the tractor lever to the float position.



1431-2-21N 3

5 - MAINTENANCE

GENERAL INFORMATION

Lubrication

⚠ WARNING

Maintenance hazard!
Observe the following safety precautions before performing any lubrication or maintenance. 1. Shut off tractor engine and remove key. 2. Disengage PTO drive. 3. Engage tractor parking brake. 4. Engage tailgate lockout valves if tailgate is raised. 5. Make sure all guards and shields are installed.

Failure to comply could result in death or serious injury.

W0035A

⚠ WARNING

Illustrations in this manual may show protective shielding open or removed to better illustrate a particular feature or adjustment.

Replace all shields before operating the machine.

Failure to comply could result in death or serious injury.

W0012A

Adequate lubrication and maintenance on a regular schedule is vital to maintaining your equipment. To ensure long service and efficient operation, follow the lubrication and maintenance schedules outlined in this manual. The use of proper fuels, oils, grease and filters, as well as keeping the systems clean, will also extend machine and component life.

NOTICE: Always use genuine New Holland replacement parts, oils and filters to ensure proper operation, filtration of engine and hydraulic systems. See your New Holland dealer for additional oil quantities.

General information

Regular lubrication is the best insurance against delays and repairs. Proper lubrication will extend machine life. Refer to the following charts for lubricants and service intervals.

NOTICE: Failure to complete the required maintenance at the recommended intervals can cause unnecessary downtime.

The intervals listed in the Lubrication Chart are guidelines to be used when operating in normal conditions. Adjust the intervals for operating in adverse environmental and working conditions. The intervals must be shortened for sandy, dusty and extremely hot operating conditions.

Always clean the area around dipsticks, fill caps, and check plugs when checking fluid levels. Failure to clean these areas may allow contamination to enter the system. Drain, flush and refill the system anytime you suspect it is contaminated.

Grease fittings

Wipe dirt from fittings before greasing.

Pump fresh grease into fitting to adequately lubricate the component and force out any contamination from the grease passage.

Wipe off excess grease.

Use a grease gun containing clean high grade of multi-purpose grease.

Maintenance chart - Lubrication Schedule

NOTE: The items listed at the first 50 hours are very important. If they are not performed, it could cause early failures of components and severely lower the life expectancy of the disc mower-conditioner.

LUBRICATION AND MAINTENANCE SCHEDULE

DESCRIPTION	After First 8 Hours	After First 50 Hours	Every 8 Hours or Daily	Every 50 Hours	Every 200 Hours	Every 500 Hours or Yearly
LUBRICATION						
PTO Slide Collar	x		x			
Primary PTO Universal Joints	x		x			
Primary PTO Sliding Shaft	x		x			
Secondary PTO Sliding Shaft	x		x			
Slip Clutch	x			x		
Roll Drive Shafts	x		x			
Cutter Bar Drive Shaft	x		x			
Wheel Arms	x		x			
Header Lift Arms	x		x			
Tongue Pivot Pin	x		x			
Cutter Bar Mounting Bolts	x		x			
Roll Pressure Crank (Rolls)				x		
Hood Adjustment Crank (Flail)	x	x		x		
Center Gearbox Pivots					x	
Wheel Bearings		x				x
Check Oil Level in Bevel Gearbox				x		
Change Oil in Bevel Gearbox		x			x	
Check Swivel Hitch Gearboxes				x		
Change Swivel Hitch Gearboxes		x			x	
Check Right Angle Gearbox				x		
Change Right Angle Gearbox		x			x	
Check Roll Drive Gearbox (Rolls)				x		
Change Roll Drive Gearbox (Rolls)		x			x	
Check Oil Level in Cutter Bar Modules				x		

Consumables - Lubrication

LOCATION	CAPACITY	LUBRICATION	GRADE
Upper Swivel Gearbox	1000 ml (1.1 qts)	NEW HOLLAND AMBRA HYPOIDE 90 or NEW HOLLAND AMBRA HYPOIDE SSL GEAR OIL (API 75W90 Synthetic)	GL5
Lower Swivel Gearbox	1800 ml (1.9 qts)	NEW HOLLAND AMBRA HYPOIDE 90 or	GL5
Center Pivot Gearbox	2000 ml (2.2 qts)	NEW HOLLAND AMBRA HYPOIDE SSL GEAR OIL (API 75W90 Synthetic)	
Right Angle Gearbox	2000 ml (2.2 qts)		
Roll Drive Gearbox	800 ml (0.8 qts)		
Cutter Bar Modules (10)	300 ml (0.3 qts) each	NEW HOLLAND AMBRA HYPOIDE 90 or NEW HOLLAND AMBRA HYPOIDE SSL GEAR OIL (API 75W90 Synthetic)	GL5
Lubrication Fittings		Lithium base EP Hi-Temp. Grease	

⚠ CAUTION

Maintenance hazard!

Always stop the machine before performing any lubrication. Observe the following precautions before leaving the operator's platform: Disengage all drives. Engage the parking brake. Raise the header. Engage the header lifter safety latch. Turn the machine engine OFF. Remove the ignition key.

Failure to comply could result in minor or moderate injury.

C0029A

NOTE: The machine must be checked daily for oil leaks. Any leak must be fixed immediately.

NOTE: Clean the area around all plugs and grease fittings prior to removing or greasing.

NOTE: All oil levels are checked with the cutter bar level both from front to back and side to side.

Grease fittings

Grease fittings are identified in the following figures. Recommended lubrication intervals are listed after each description.

NOTE: Lithium-based EP high temperature grease must be used at all grease points.

Gearboxes

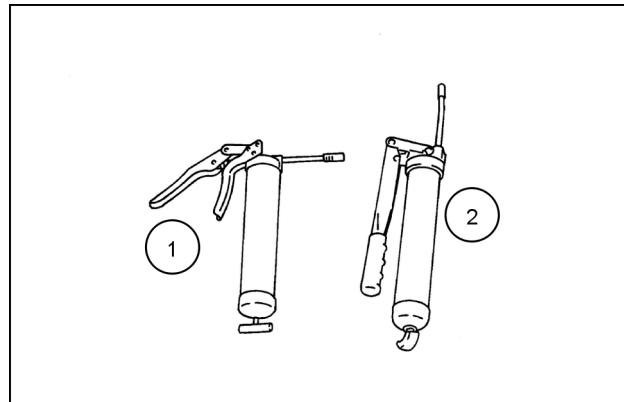
Oil for the gearboxes and cutter bar modules are available from your authorized dealer.

Maintain oil level using API GL5 80W90 gear oil or API GL5 75W90 Hypoid SSL gear lube (synthetic).

NOTICE: Failure to use the correct specification of oil may lead to premature failure of the gearbox components.

NOTICE: The oil in all gearboxes must be changed after the first 50 hours of use to remove any contaminants from the break-in process.

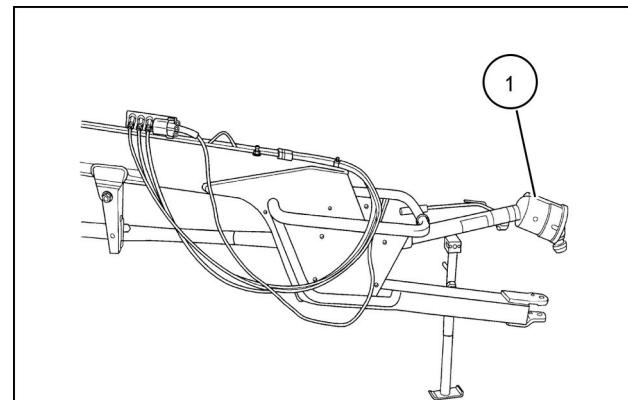
Different types of grease guns provide a different amount of grease per pump of the handle. In general, a pistol grip style grease gun (1) provides half the amount of grease per pump as a lever style grease gun (2). The number of pumps listed in this section are for pistol grip style grease guns; use half the number of pumps for lever style grease guns.



1431-2-58N 1

PTO Maintenance and Lubrication - PTO slide collar

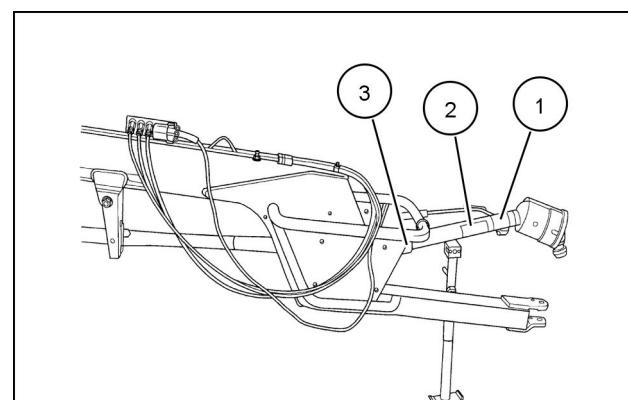
Lubricate the slide collar (1) as required with oil to prevent rust from seizing the components.



19985232N 1

PTO Maintenance and Lubrication - Primary PTO (standard tongue)

There are three main areas on the primary PTO drive shaft which require lubrication: the front 80° CV joint (1), telescoping section (2), and the rear 50° CV joint (3).



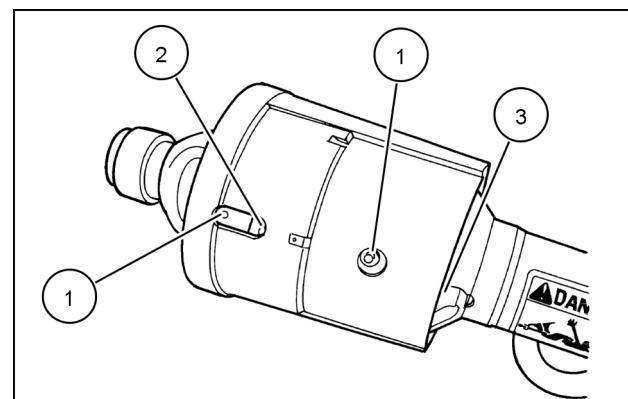
19985232N 1

Front 80° CV joint

Fittings (1) universal joints (2 fittings) (4 - 6 pumps).
Fitting (2) CV center housing (1 fitting) (16 - 20 pumps).

NOTE: It may be necessary to remove the PTO shaft from the tractor to access fitting (2).

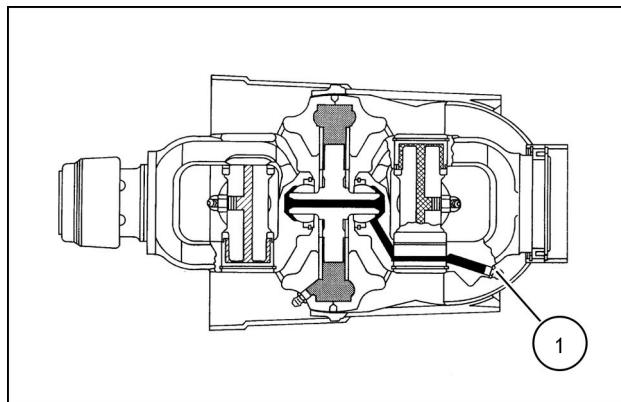
Fitting (3) CV inner yoke flange (1 fitting) (16 - 20 pumps).



1431-1-30N 2

Lubrication is extremely important to this 80° CV joint. The grease paths are shown for the above fittings.

NOTE: Some resistance may be felt when adding lubricant at fitting (1). Ensure 16 - 20 pumps of grease are used.

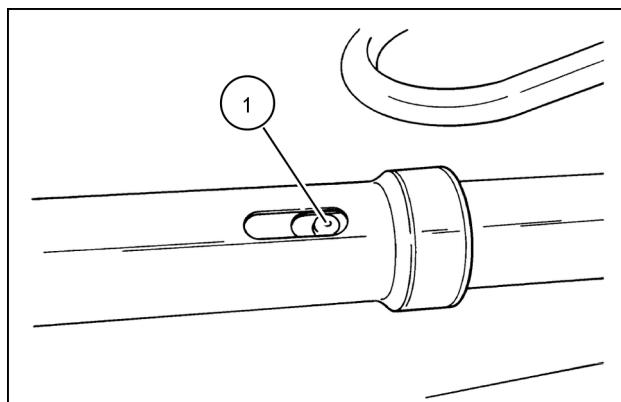


19988034N 3

Telescoping section

Fitting (1) sliding PTO shaft (16 - 20 pumps).

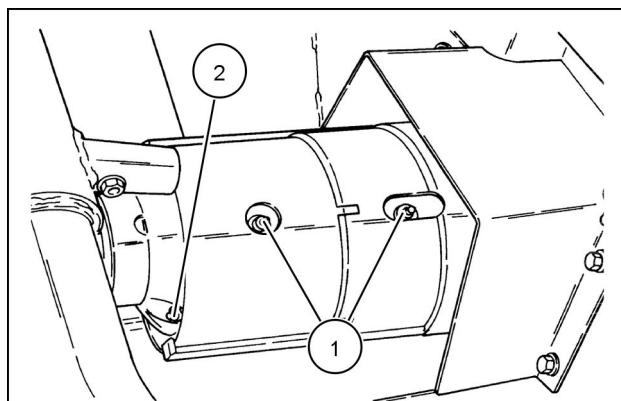
NOTE: The PTO shaft should be moved from fully retracted to extended position to distribute grease full length of the PTO shaft.



1431-2-17N 4

Rear 50° CV joint

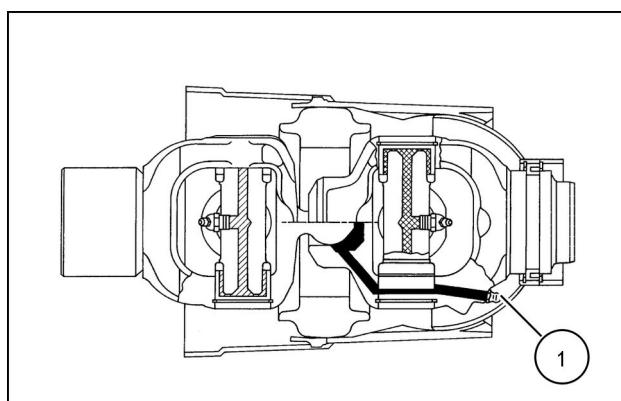
Fittings (1) universal joints (2 fittings) (4 - 6 pumps). Fitting (2) CV inner yoke flange (1 fitting) (16 - 20 pumps).



1431-2-18N 5

Lubrication is extremely important to the 50° CV joint. The grease paths are shown for the above fittings.

NOTE: Some resistance may be felt when adding lubricant at fitting (1). Ensure 16 - 20 pumps of grease are used.



19988035N 6

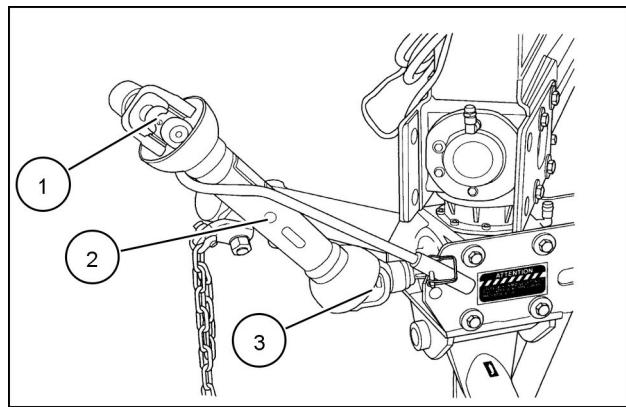
PTO Maintenance and Lubrication - Primary PTO (swivel hitch tongue)

Fitting (1) front universal joint (1 fitting) (4 - 6 pumps).
 Fitting (2) sliding PTO shaft (1 fitting) (16 - 20 pumps).

NOTE: PTO shaft should be moved from fully retracted to extended position to distribute grease full length of PTO shaft.

Fitting (3) rear universal joint (1 fitting) (4 - 6 pumps)

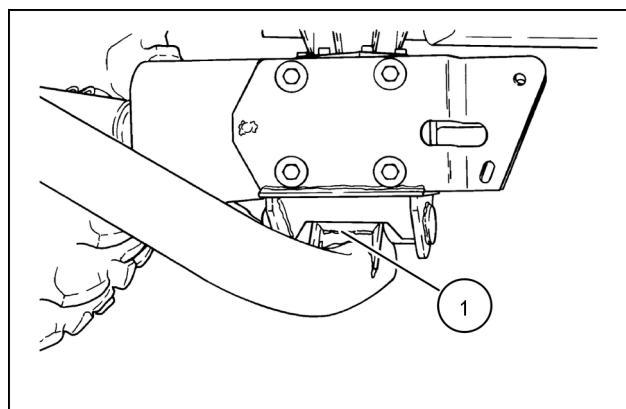
NOTE: Rear PTO shield shown removed for clarity.



19985235N 1

Swivel hitch trunnion

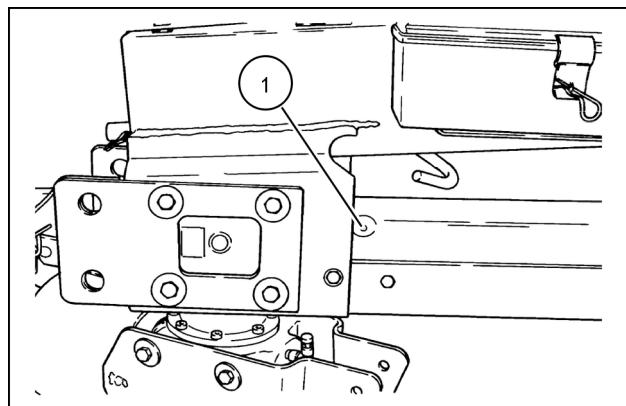
Fitting (1) swivel hitch trunnion assembly (1 fitting) (4 - 6 pumps).



97-1547N 2

Gearbox coupler (swivel hitch tongue)

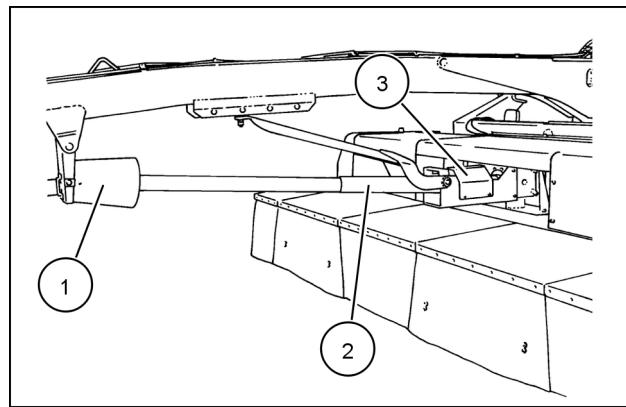
Fitting (1) gearbox to jackshaft coupler (1 fitting) (4 - 6 pumps).



97-1548N 3

PTO Maintenance and Lubrication - Secondary PTO

There are three areas on the secondary PTO drive shaft which require lubrication; the front U-joint (1), telescoping section (2), and the rear U-joint and slip clutch assembly (3).

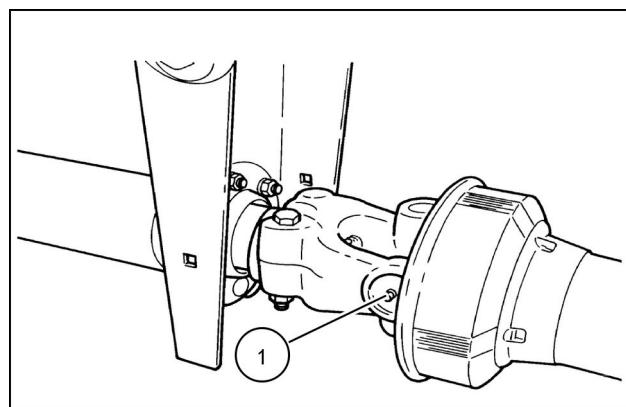


Front U-joint

Remove the shield by squeezing the top and bottom of the shield toward each other until the shield flexes off the pins. Slide the shield rearward.

Fitting (1) universal joint (1 fitting) (4 - 6 pumps). Reinstall the shield over the U-joint.

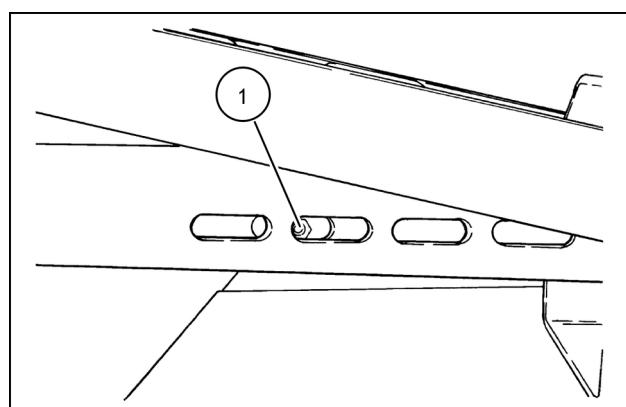
NOTE: *Shield shown removed for clarity.*



Telescoping section

Fitting (1) sliding PTO shaft (1 fitting) (16 - 20 pumps).

NOTE: *Unit should be pivoted fully side to side after greasing to distribute grease full length of the PTO shaft.*

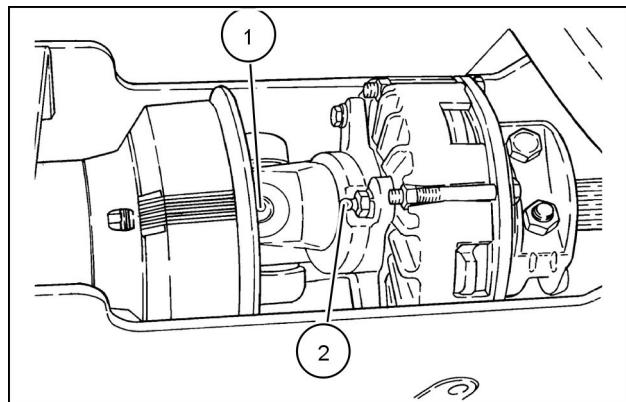


Lubrication points - Rear U - joint and slip clutch assembly

Fitting (1) universal joint (1 fitting) (4 - 6 pumps).

Fitting (2) overrunning clutch (1 fitting) (8 - 10 pumps).

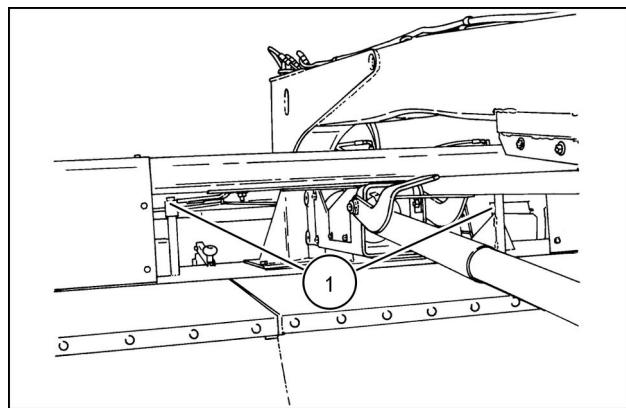
NOTE: Shielding shown removed for clarity. Grease Zerks are accessible through a slot in the shielding.



1431-2-34N 1

Lubrication points - Header belt drives

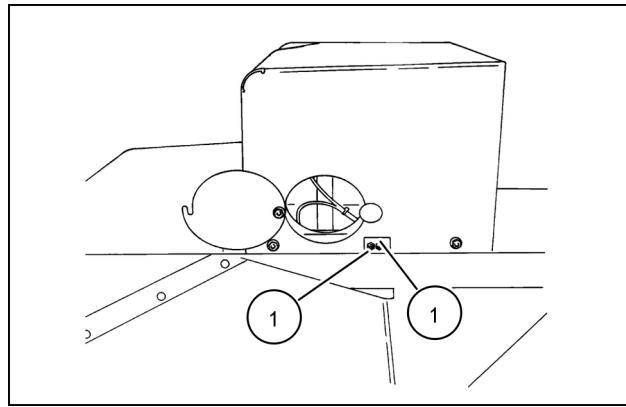
Fitting (1) belt tension idler pivot (1 fitting on two idler pivots) (4 - 6 pumps).



5000-06N 1

Lubrication points - Cutter bar drive jackshaft

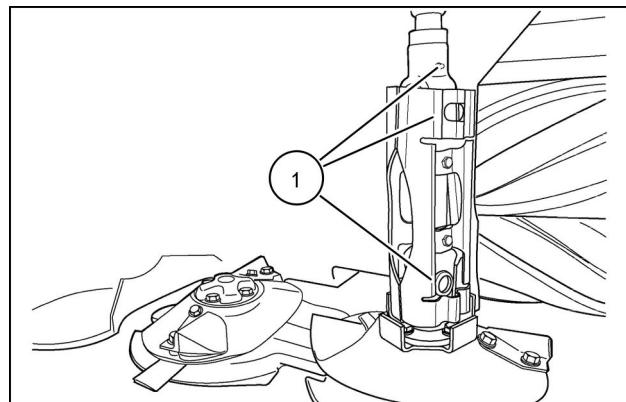
Fittings (1) on left side to lubricate jackshaft upper & lower bearings (2 fittings) (4 - 6 pumps).



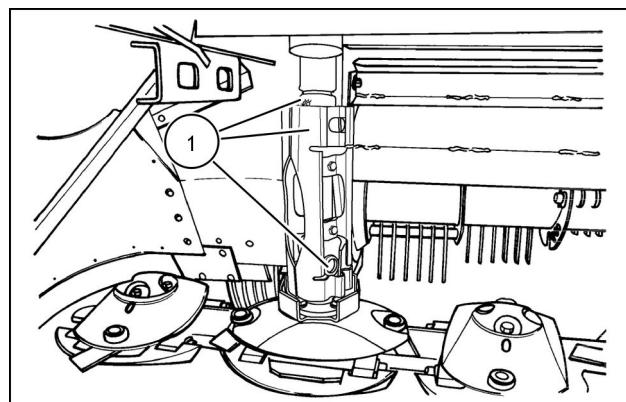
19993754N 1

Lubrication points - Cutter bar drive shafts

Fittings (1) left and right cutter bar drive shaft U - joints (3 fittings on each drive shaft) (4 - 6 pumps).



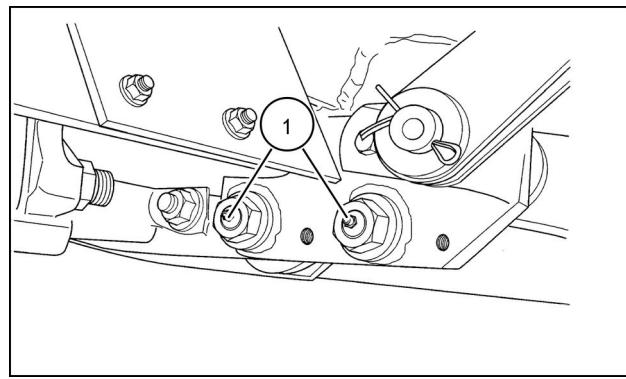
36082796N 1



36082799N 2

Lubrication points - Cutter bar mounting bolts

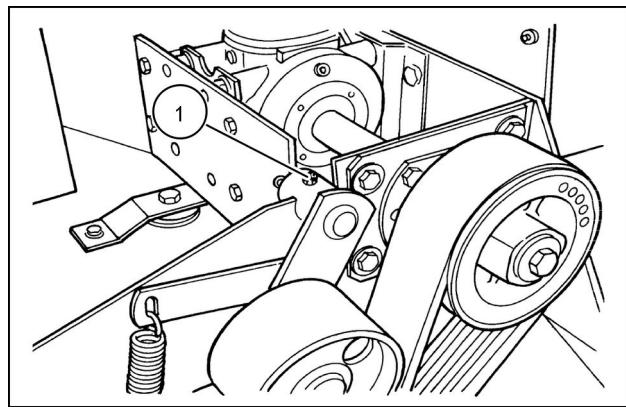
Fittings (1) left and right cutter bar mounting bolts (one fitting on each bolt, four bolts total) (4 - 6 pumps).



19990610N 1

Lubrication points - Conditioner roll belt drive

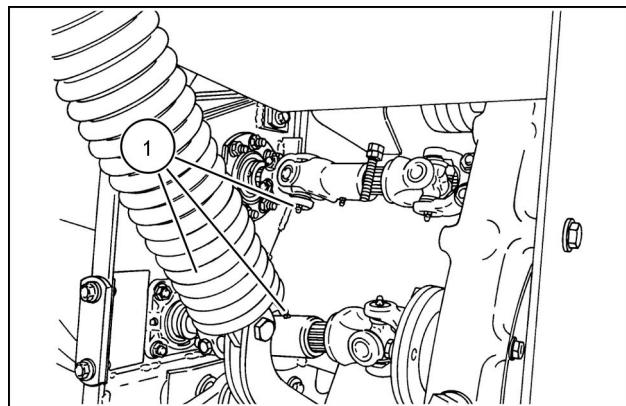
Fitting (1) belt tightener pivot under right side shield (4 - 6 pumps).



1431-1-36N 1

Conditioner roll drive shafts - roll conditioning only

Fittings (1) upper and lower roll drive shafts (3 fittings on each drive shaft) (4 - 6 pumps).

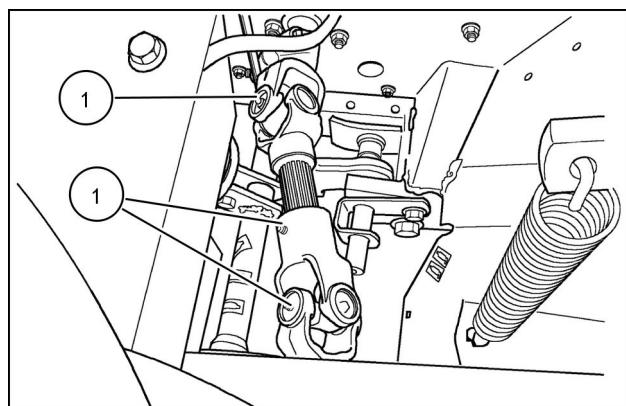


5000-01N 2

Conditioner drive shaft

Fittings (1) lower drive shafts (3 fittings on each drive shaft) (4 - 6 pumps every 8 hours).

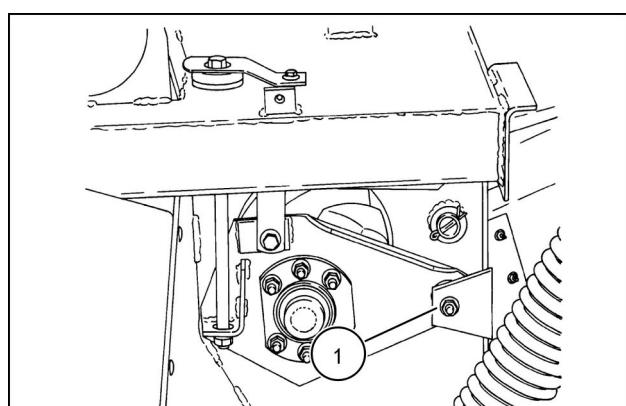
NOTE: Figure is shown from the ground looking up.



30000981N 3

Upper conditioner roll pivot arms

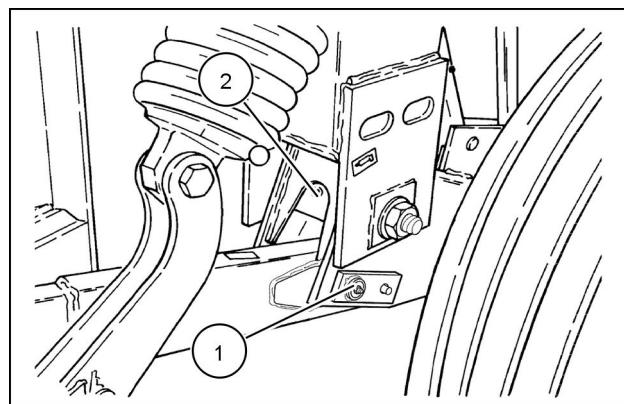
Fitting (1) on each upper roll arm (4 - 6 pumps).



1431-03N 4

Lubrication points - Wheel arms and header lift arms

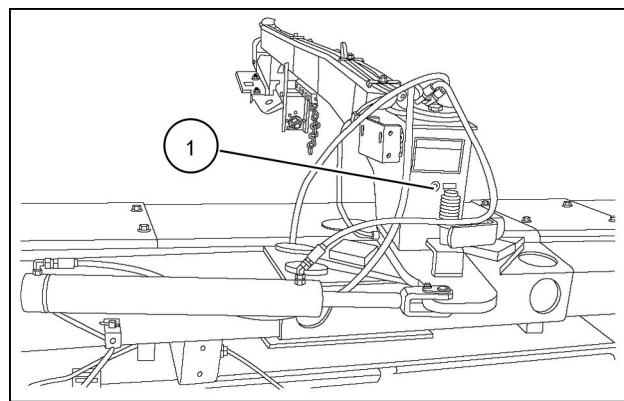
Fitting (1) on each header lift arm and (2) on each wheel arm (4 - 6 pumps).



30004609N 1

Lubrication points - Tongue pivot pin

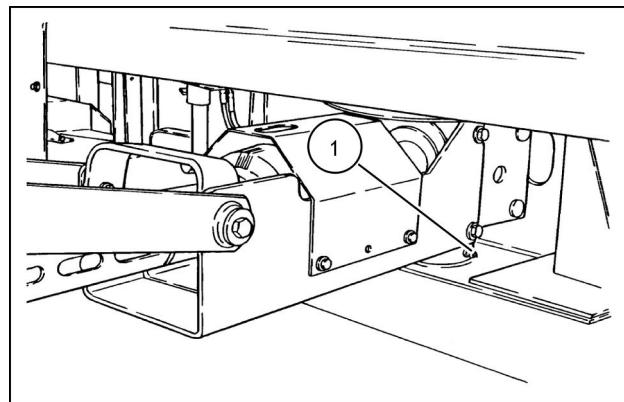
Fitting (1) (4 - 6 pumps).



93113257 1

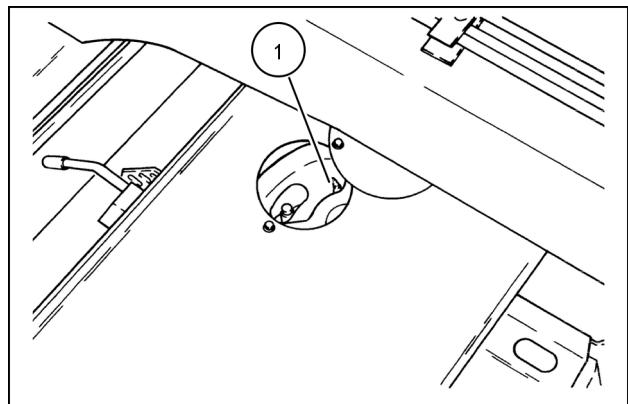
Lubrication points - Center bevel gearbox pivots

Grease the upper and lower gearbox pivot hubs with 16 - 20 pumps of grease every 200 hours, or once a season. The lower pivot hub fitting (1) may be accessed from the front of the header.



1431-2-36N 1

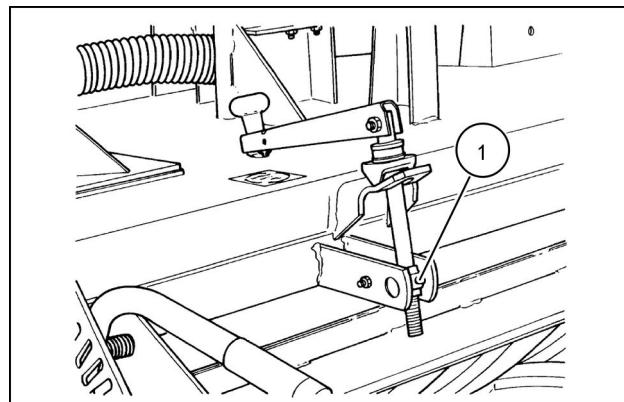
Open the access cover in the center shield to obtain access to the upper pivot fitting (1).



97-1552N 2

Lubrication points - Roll pressure crank - roll conditioner only

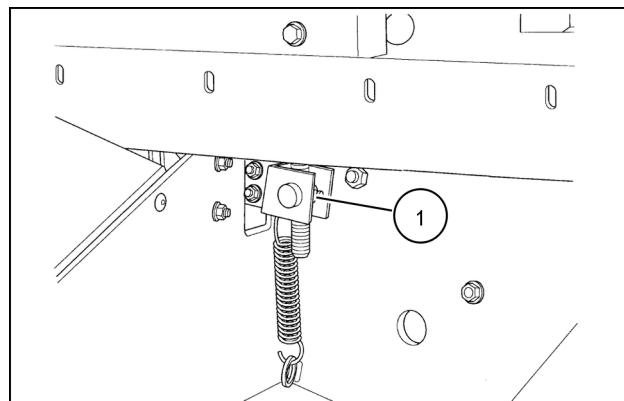
Fitting (1) (4 - 6 pumps).



4833-12N 1

Lubrication points - Hood adjustment crank - flail conditioner only

Fitting (1) (4 - 6 pumps every 100 hours).



19985254N 1

Lubrication points - Swivel hitch gearboxes

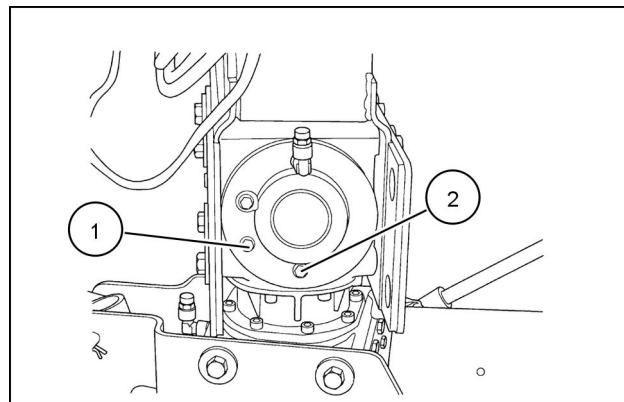
The swivel hitch gearbox assembly consists of two gearboxes, connected together. Each gearbox oil level must be checked separately.

Upper swivel gearbox

Fill to oil level plug (1). (50 hours) Access the oil level plug from the front of the tongue, above the PTO shaft shielding. Add oil by inserting a funnel into the hole.

The upper swivel gearbox oil should be changed every 200 hours or yearly, whichever occurs first. Drain oil by removing plug (2) on the bottom of the gearbox. Apply sealant to the threads of the drain plug before reinstalling in the gearbox. The gearbox holds approximately **1000 ml (34 US fl oz)**

Maintain oil level using **NEW HOLLAND AMBRA HYPOIDE 90 80W90** gear oil or **NEW HOLLAND AMBRA HYPOIDE SSL GEAR OIL 75W90** (synthetic).

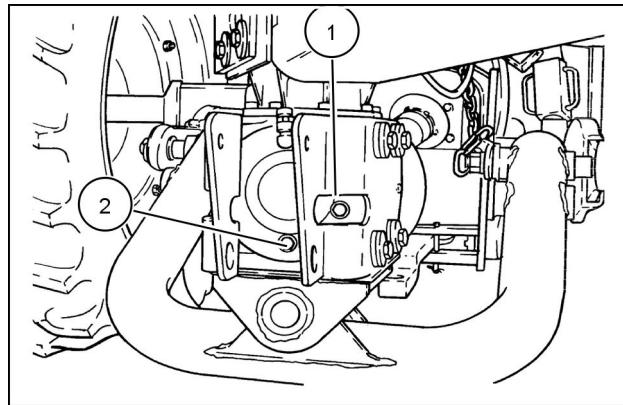


19985234N 1

Lower swivel gearbox

Fill to oil level plug (1). (50 hours) Access the oil level plug from the rear of the gearbox, through the slot in the jack stand bracket. Add oil by inserting a funnel into the hole. The lower swivel gearbox oil should be changed every 200 hours or yearly, whichever occurs first. Drain oil by removing plug (2) on the bottom of the gearbox. Apply sealant to the threads of the drain plug before reinstalling in the gearbox. The gearbox holds approximately **1800 ml (61 US fl oz)**.

Maintain oil level using **NEW HOLLAND AMBRA HYPOIDE 90 80W90** gear oil or **NEW HOLLAND AMBRA HYPOIDE SSL GEAR OIL 75W90** (synthetic).

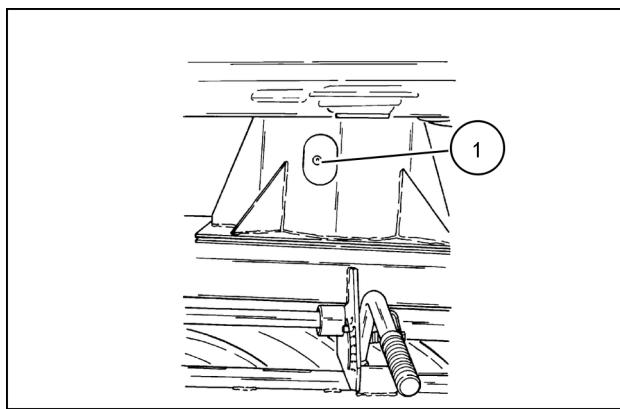


97-1550N 2

Lubrication points - Center pivoting bevel gearbox

Fill to oil level plug (1). (50 hours) Access the oil level plug from the rear of the header, through the slot in the gearbox support. Add oil through the level plug hole using a long flexible neck funnel, or open the access cover in the center shielding, and add oil by removing the breather.

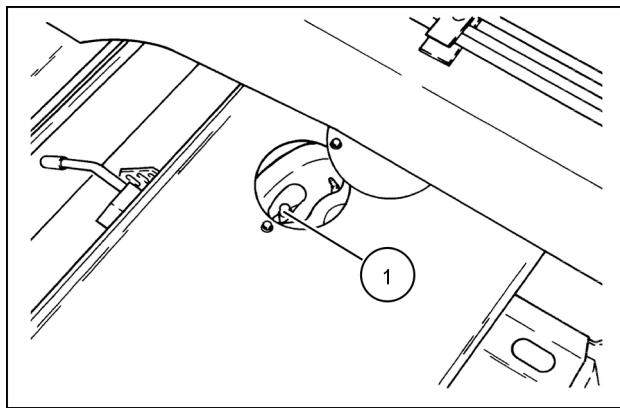
NOTE: Tongue must be centered in the transport position to provide access to gearbox level plug (1) and gearbox breather/fill port (2).



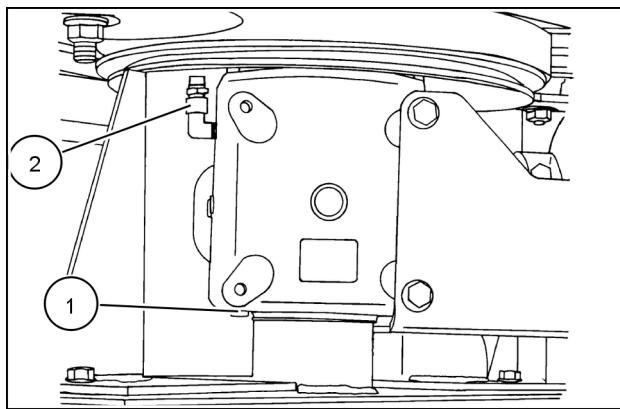
1431-2-16N 1

The bevel gearbox oil should be changed every 200 hours or yearly, whichever occurs first. Drain oil by removing plug (1) on the underside of the gearbox. Apply sealant to the threads of the drain plug before reinstalling in the gearbox. The gearbox holds approximately **2200 ml (75 US fl oz)**.

Maintain oil level using **NEW HOLLAND AMBRA HYPOIDE 90 80W90** gear oil or **NEW HOLLAND AMBRA HYPOIDE SSL GEAR OIL 75W90** (synthetic).



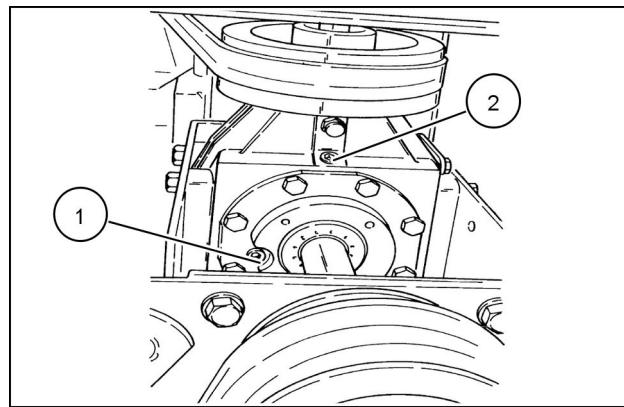
97-1552N 2



4899-03N 3

Lubrication points - Right angle gearbox

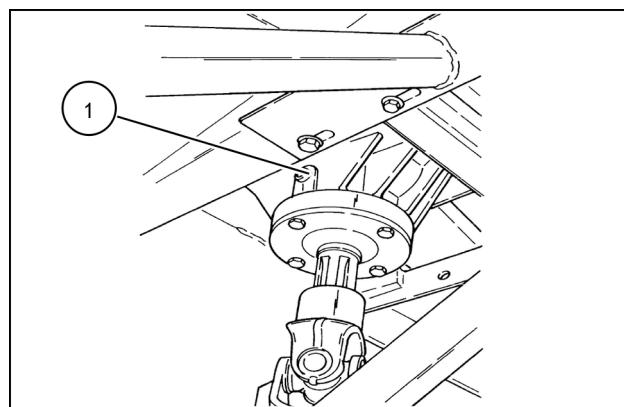
Fill to oil level plug (1). (50 hours) Add oil by removing plug (2) and inserting a funnel into the hole.



1431-2-14N 1

The right angle gearbox oil should be changed every 200 hours or yearly, whichever occurs first. Drain oil by removing plug (1) on the lower neck of the gearbox. Apply sealant to the threads of the drain plug before reinstalling in the gearbox. The gearbox holds approximately **2000 ml (68 US fl oz)**.

Maintain oil level using **NEW HOLLAND AMBRA HYPOIDE 90** gear oil or **NEW HOLLAND AMBRA HYPOIDE SSL GEAR OIL 75W90** (synthetic).



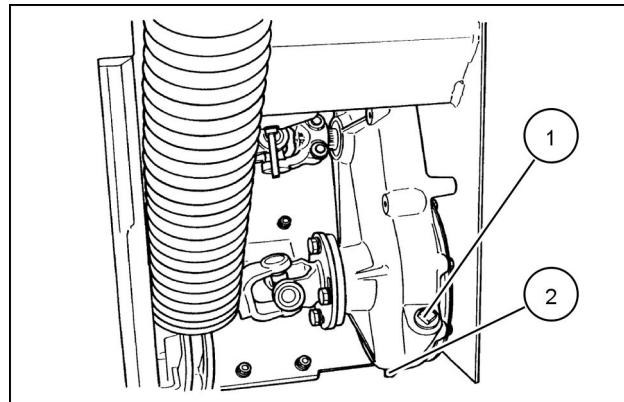
1431-2-15N 2

Lubrication points - Roll drive gearbox

Fill to oil level plug (1). (50 hours) Add oil through the level plug hole.

The roll drive gearbox oil should be changed every 200 hours or yearly, whichever occurs first. Drain oil by removing plug (2) on the bottom of the gearbox. Apply sealant to the threads of the drain plug before reinstalling in the gearbox. The gearbox holds approximately **800 ml (27 US fl oz)**.

Maintain oil level using **NEW HOLLAND AMBRA HYPOIDE 90 80W90** gear oil or **NEW HOLLAND AMBRA HYPOIDE SSL GEAR OIL 75W90** (synthetic).



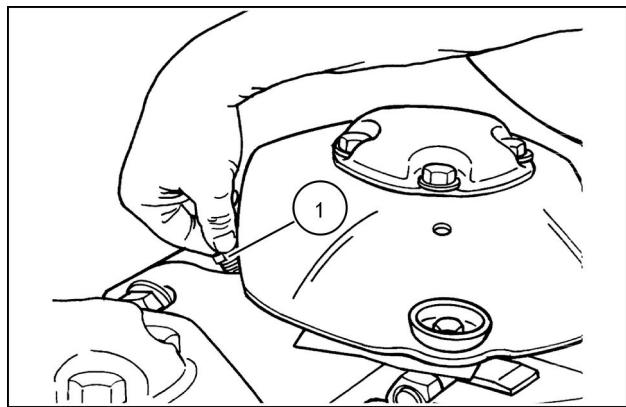
4835-07N 1

Lubrication points - Cutter bar modules

Module oil should be checked every 50 hours. All ten cutter bar modules must be checked.

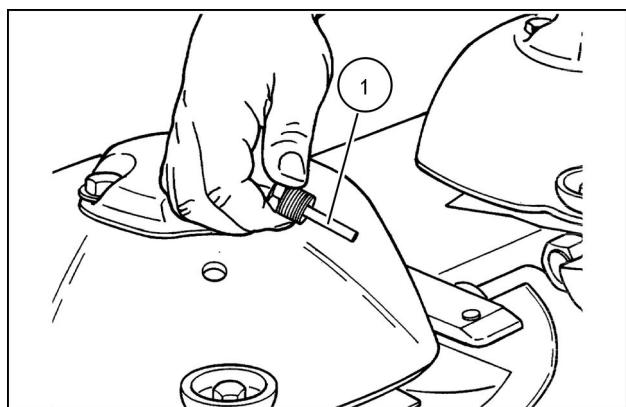
NOTE: Position the machine on a level surface. Retract the tilt cylinder to position the cutter bar at minimum tilt.

1. Remove dip stick (1) wipe it clean.
2. Hold the dipstick firmly in place into the hole but do not thread it in.



A3662-19N 1

3. Remove the dipstick and observe the oil level. The oil level is correct when it is anywhere within the marked area at the end (1) of the dipstick. Maintain oil level using **NEW HOLLAND AMBRA HYPOIDE 90 80W90** gear oil or **NEW HOLLAND AMBRA HYPOIDE SSL GEAR OIL 75W90** (synthetic).



A3662-20N 2

⚠ DANGER

Crushing hazard!

Safety locks built into the header lift system lock the header in the raised position. Engage the safety locks on both sides before working under a raised header.

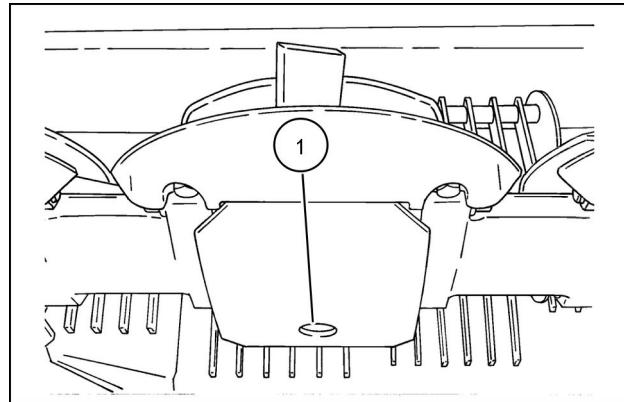
Failure to comply will result in death or serious injury.

D0029A

Module oil should be changed after the first 50 hours of use to remove any contaminants from the break-in process. After this, change the oil every 200 hours or yearly, whichever occurs first.

Raise the header and engage the header lift locks. Lock the header tilt cylinder in the minimum tilt position.

Drain oil by removing the drain plug (1) on bottom of module, through the hole in the bottom of the skid shoe. Apply sealant to the threads of the drain plug before reinstalling in the module. The modules hold **300 ml (10 US fl oz)**.

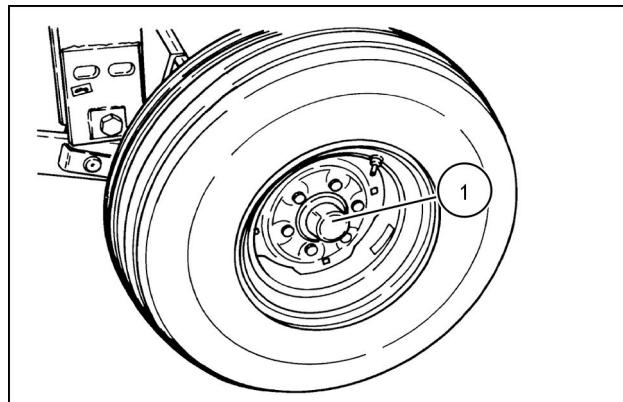


19982131N 3

Fill the modules using **NEW HOLLAND AMBRA HYPOIDE 90 80W90** gear oil or **NEW HOLLAND AMBRA HYPOIDE SSL GEAR OIL 75W90** (synthetic).

Lubrication points - Wheel bearings

Repack the wheel bearings (1) every 500 hours or each season with a top grade of wheel bearing grease.



1431-2-13N 1

Torque - Minimum tightening torques for normal assembly

METRIC NON-FLANGED HARDWARE

NOM. SIZE	CLASS 8.8 BOLT and CLASS 8 NUT		CLASS 10.9 BOLT and CLASS 10 NUT		LOCKNUT CL.8 W/CL8.8 BOLT	LOCKNUT CL.10 W/CL10.9 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr		
M4	2.2 N·m (19 lb in)	2.9 N·m (26 lb in)	3.2 N·m (28 lb in)	4.2 N·m (37 lb in)	2 N·m (18 lb in)	2.9 N·m (26 lb in)
M5	4.5 N·m (40 lb in)	5.9 N·m (52 lb in)	6.4 N·m (57 lb in)	8.5 N·m (75 lb in)	4 N·m (36 lb in)	5.8 N·m (51 lb in)
M6	7.5 N·m (66 lb in)	10 N·m (89 lb in)	11 N·m (96 lb in)	15 N·m (128 lb in)	6.8 N·m (60 lb in)	10 N·m (89 lb in)
M8	18 N·m (163 lb in)	25 N·m (217 lb in)	26 N·m (234 lb in)	35 N·m (311 lb in)	17 N·m (151 lb in)	24 N·m (212 lb in)
M10	37 N·m (27 lb ft)	49 N·m (36 lb ft)	52 N·m (38 lb ft)	70 N·m (51 lb ft)	33 N·m (25 lb ft)	48 N·m (35 lb ft)
M12	64 N·m (47 lb ft)	85 N·m (63 lb ft)	91 N·m (67 lb ft)	121 N·m (90 lb ft)	58 N·m (43 lb ft)	83 N·m (61 lb ft)
M16	158 N·m (116 lb ft)	210 N·m (155 lb ft)	225 N·m (166 lb ft)	301 N·m (222 lb ft)	143 N·m (106 lb ft)	205 N·m (151 lb ft)
M20	319 N·m (235 lb ft)	425 N·m (313 lb ft)	440 N·m (325 lb ft)	587 N·m (433 lb ft)	290 N·m (214 lb ft)	400 N·m (295 lb ft)
M24	551 N·m (410 lb ft)	735 N·m (500 lb ft)	762 N·m (560 lb ft)	1016 N·m (750 lb ft)	501 N·m (370 lb ft)	693 N·m (510 lb ft)

NOTE: M4 through M8 hardware torque specifications are shown in pound-inches. M10 through M24 hardware torque specifications are shown in pound-feet.

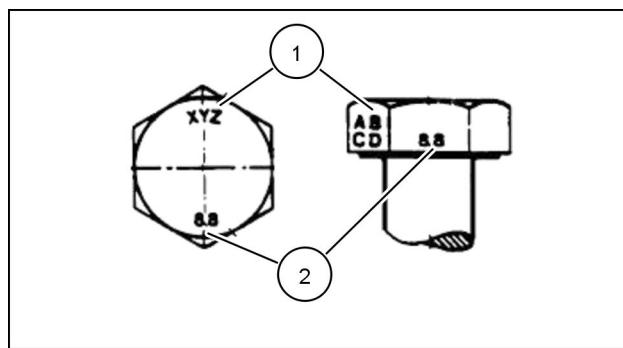
METRIC FLANGED HARDWARE

NOM. SIZE	CLASS 8.8 BOLT and CLASS 8 NUT		CLASS 10.9 BOLT and CLASS 10 NUT		LOCKNUT CL.8 W/CL8.8 BOLT	LOCKNUT CL.10 W/CL10.9 BOLT
	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr		
M4	2.4 N·m (21 lb in)	3.2 N·m (28 lb in)	3.5 N·m (31 lb in)	4.6 N·m (41 lb in)	2.2 N·m (19 lb in)	3.1 N·m (27 lb in)
M5	4.9 N·m (43 lb in)	6.5 N·m (58 lb in)	7.0 N·m (62 lb in)	9.4 N·m (83 lb in)	4.4 N·m (39 lb in)	6.4 N·m (57 lb in)
M6	8.3 N·m (73 lb in)	11 N·m (96 lb in)	12 N·m (105 lb in)	16 N·m (141 lb in)	7.5 N·m (66 lb in)	11 N·m (96 lb in)
M8	20 N·m (179 lb in)	27 N·m (240 lb in)	29 N·m (257 lb in)	39 N·m (343 lb in)	18 N·m (163 lb in)	27 N·m (240 lb in)
M10	40 N·m (30 lb ft)	54 N·m (40 lb ft)	57 N·m (42 lb ft)	77 N·m (56 lb ft)	37 N·m (27 lb ft)	53 N·m (39 lb ft)
M12	70 N·m (52 lb ft)	93 N·m (69 lb ft)	100 N·m (74 lb ft)	134 N·m (98 lb ft)	63 N·m (47 lb ft)	91 N·m (67 lb ft)
M16	174 N·m (128 lb ft)	231 N·m (171 lb ft)	248 N·m (183 lb ft)	331 N·m (244 lb ft)	158 N·m (116 lb ft)	226 N·m (167 lb ft)
M20	350 N·m (259 lb ft)	467 N·m (345 lb ft)	484 N·m (357 lb ft)	645 N·m (476 lb ft)	318 N·m (235 lb ft)	440 N·m (325 lb ft)
M24	607 N·m (447 lb ft)	809 N·m (597 lb ft)	838 N·m (618 lb ft)	1118 N·m (824 lb ft)	552 N·m (407 lb ft)	

IDENTIFICATION

Metric Hex head and carriage bolts, classes 5.6 and up

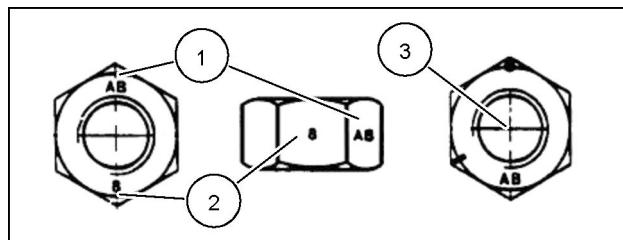
1. Manufacturer's Identification
2. Property Class



20083680 1

Metric Hex nuts and locknuts, classes 05 and up

1. Manufacturer's Identification
2. Property Class
3. Clock Marking of Property Class and Manufacturer's Identification (Optional), i.e. marks **60°** apart indicate Class 10 properties, and marks **120°** apart indicate Class 8.



20083681 2

INCH NON-FLANGED HARDWARE

NOMINAL SIZE	SAE GRADE 5 BOLT and NUT		SAE GRADE 8 BOLT and NUT		LOCKNUT GrB W/ Gr5 BOLT	LOCKNUT GrC W/ Gr8 BOLT
	UN-PLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UN-PLATED or PLATED SILVER	PLATED W/ZnCr GOLD		
1/4	8 N·m (71 lb in)	11 N·m (97 lb in)	12 N·m (106 lb in)	16 N·m (142 lb in)	8.5 N·m (75 lb in)	12.2 N·m (109 lb in)
5/16	17 N·m (150 lb in)	23 N·m (204 lb in)	24 N·m (212 lb in)	32 N·m (283 lb in)	17.5 N·m (155 lb in)	25 N·m (220 lb in)
3/8	30 N·m (22 lb ft)	40 N·m (30 lb ft)	43 N·m (31 lb ft)	57 N·m (42 lb ft)	31 N·m (23 lb ft)	44 N·m (33 lb ft)
7/16	48 N·m (36 lb ft)	65 N·m (48 lb ft)	68 N·m (50 lb ft)	91 N·m (67 lb ft)	50 N·m (37 lb ft)	71 N·m (53 lb ft)
1/2	74 N·m (54 lb ft)	98 N·m (73 lb ft)	104 N·m (77 lb ft)	139 N·m (103 lb ft)	76 N·m (56 lb ft)	108 N·m (80 lb ft)
9/16	107 N·m (79 lb ft)	142 N·m (105 lb ft)	150 N·m (111 lb ft)	201 N·m (148 lb ft)	111 N·m (82 lb ft)	156 N·m (115 lb ft)
5/8	147 N·m (108 lb ft)	196 N·m (145 lb ft)	208 N·m (153 lb ft)	277 N·m (204 lb ft)	153 N·m (113 lb ft)	215 N·m (159 lb ft)
3/4	261 N·m (193 lb ft)	348 N·m (257 lb ft)	369 N·m (272 lb ft)	491 N·m (362 lb ft)	271 N·m (200 lb ft)	383 N·m (282 lb ft)
7/8	420 N·m (310 lb ft)	561 N·m (413 lb ft)	594 N·m (438 lb ft)	791 N·m (584 lb ft)	437 N·m (323 lb ft)	617 N·m (455 lb ft)
1	630 N·m (465 lb ft)	841 N·m (620 lb ft)	890 N·m (656 lb ft)	1187 N·m (875 lb ft)	654 N·m (483 lb ft)	924 N·m (681 lb ft)

NOTE: For Imperial Units, 1/4 in and 5/16 in hardware torque specifications are shown in pound-inches. 3/8 in through 1 in hardware torque specifications are shown in pound-feet.

INCH FLANGED HARDWARE

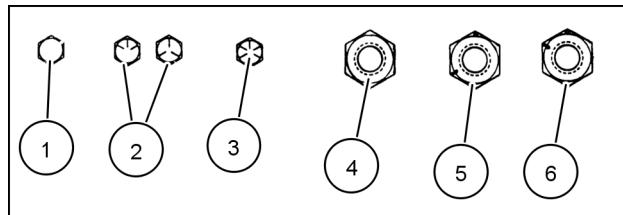
NOMINAL SIZE	SAE GRADE 5 BOLT and NUT	SAE GRADE 8 BOLT and NUT	LOCKNUT GrF W/ Gr5 BOLT	LOCKNUT GrG W/ Gr8 BOLT
	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD	UNPLATED or PLATED SILVER	PLATED W/ZnCr GOLD
1/4	9 N·m (80 lb in)	12 N·m (106 lb in)	13 N·m (115 lb in)	17 N·m (150 lb in)
5/16	19 N·m (168 lb in)	25 N·m (221 lb in)	26 N·m (230 lb in)	35 N·m (310 lb in)
3/8	33 N·m (25 lb ft)	44 N·m (33 lb ft)	47 N·m (35 lb ft)	63 N·m (46 lb ft)
7/16	53 N·m (39 lb ft)	71 N·m (52 lb ft)	75 N·m (55 lb ft)	100 N·m (74 lb ft)
1/2	81 N·m (60 lb ft)	108 N·m (80 lb ft)	115 N·m (85 lb ft)	153 N·m (113 lb ft)
9/16	117 N·m (86 lb ft)	156 N·m (115 lb ft)	165 N·m (122 lb ft)	221 N·m (163 lb ft)
5/8	162 N·m (119 lb ft)	216 N·m (159 lb ft)	228 N·m (168 lb ft)	304 N·m (225 lb ft)
3/4	287 N·m (212 lb ft)	383 N·m (282 lb ft)	405 N·m (299 lb ft)	541 N·m (399 lb ft)
7/8	462 N·m (341 lb ft)	617 N·m (455 lb ft)	653 N·m (482 lb ft)	871 N·m (642 lb ft)
1	693 N·m (512 lb ft)	925 N·m (682 lb ft)	979 N·m (722 lb ft)	1305 N·m (963 lb ft)
				631 N·m (465 lb ft)
				890 N·m (656 lb ft)

IDENTIFICATION

Inch Bolts and free-spinning nuts

SAE Grade Identification			
1	Grade 2 - No Marks	4	Grade 2 Nut - No Marks
2	Grade 5 - Three Marks	5	Grade 5 Nut - Marks 120 ° Apart
3	Grade 8 - Five Marks	6	Grade 8 Nut - Marks 60 ° Apart

Grade Marking Examples

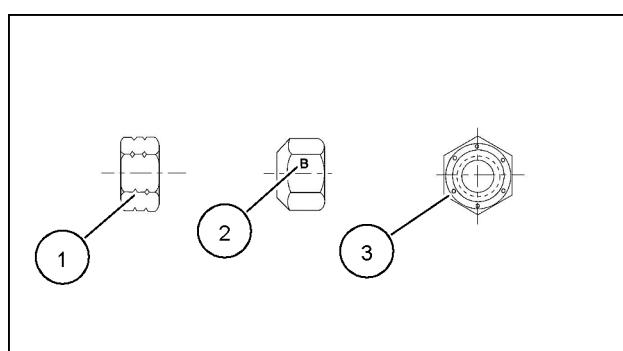


20107570 3

Inch Lock Nuts, All Metal (Three optional methods)

Grade Identification

Grade	Corner Marking Method (1)	Flats Marking Method (2)	Clock Marking Method (3)
Grade A	No Notches	No Mark	No Marks
Grade B	One Circumferential Notch	Letter B	Three Marks
Grade C	Two Circumferential Notches	Letter C	Six Marks



20090268 4

Torque - Standard torque data for hydraulics

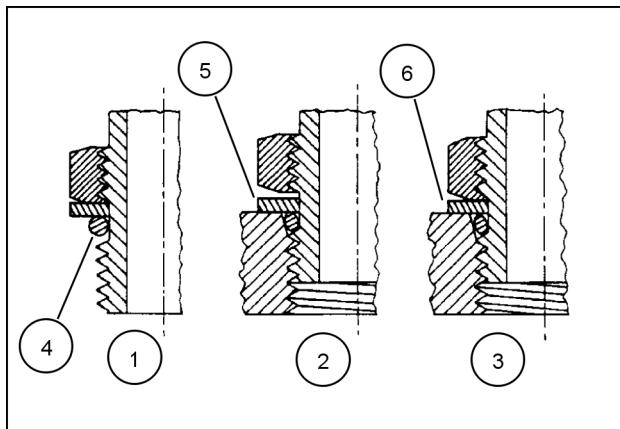
INSTALLATION OF ADJUSTABLE FITTINGS IN STRAIGHT THREAD O RING BOSSES

1. Lubricate the O-ring by coating it with a light oil or petroleum. Install the O-ring in the groove adjacent to the metal backup washer which is assembled at the extreme end of the groove (4).

2. Install the fitting into the SAE straight thread boss until the metal backup washer contacts the face of the boss (5).

NOTE: Do not over tighten and distort the metal backup washer.

3. Position the fitting by turning out (counterclockwise) up to a maximum of one turn. Holding the pad of the fitting with a wrench, tighten the locknut and washer against the face of the boss (6).



23085659 1

STANDARD TORQUE DATA FOR HYDRAULIC TUBES AND FITTINGS

TUBE NUTS FOR 37° FLARED FITTINGS				O-RING BOSS PLUGS ADJUSTABLE FITTING LOCKNUTS, SWIVEL JIC- 37° SEATS
SIZE	TUBING OD	THREAD SIZE	TORQUE	TORQUE
4	6.4 mm (1/4 in)	7/16-20	12 - 16 N·m (9 - 12 lb ft)	8 - 14 N·m (6 - 10 lb ft)
5	7.9 mm (5/16 in)	1/2-20	16 - 20 N·m (12 - 15 lb ft)	14 - 20 N·m (10 - 15 lb ft)
6	9.5 mm (3/8 in)	9/16-18	29 - 33 N·m (21 - 24 lb ft)	20 - 27 N·m (15 - 20 lb ft)
8	12.7 mm (1/2 in)	3/4-16	47 - 54 N·m (35 - 40 lb ft)	34 - 41 N·m (25 - 30 lb ft)
10	15.9 mm (5/8 in)	7/8-14	72 - 79 N·m (53 - 58 lb ft)	47 - 54 N·m (35 - 40 lb ft)
12	19.1 mm (3/4 in)	1-1/16-12	104 - 111 N·m (77 - 82 lb ft)	81 - 95 N·m (60 - 70 lb ft)
14	22.2 mm (7/8 in)	1-3/16-12	122 - 136 N·m (90 - 100 lb ft)	95 - 109 N·m (70 - 80 lb ft)
16	25.4 mm (1 in)	1-5/16-12	149 - 163 N·m (110 - 120 lb ft)	108 - 122 N·m (80 - 90 lb ft)
20	31.8 mm (1-1/4 in)	1-5/8-12	190 - 204 N·m (140 - 150 lb ft)	129 - 158 N·m (95 - 115 lb ft)
24	38.1 mm (1-1/2 in)	1-7/8-12	217 - 237 N·m (160 - 175 lb ft)	163 - 190 N·m (120 - 140 lb ft)
32	50.8 mm (2 in)	2-1/2-12	305 - 325 N·m (225 - 240 lb ft)	339 - 407 N·m (250 - 300 lb ft)

These torques are not recommended for tubes of **12.7 mm** (1/2 in) OD and larger with wall thickness of **0.889 mm** (0.035 in) or less. The torque is specified for **0.889 mm** (0.035 in) wall tubes on each application individually.

Before installing and torquing 37° flared fittings, clean the face of the flare and threads with a clean solvent or Loctite

cleaner and apply hydraulic sealant **LOCTITE® 569** to the 37° flare and the threads.

Install fitting and torque to specified torque, loosen fitting and retorque to specifications.

PIPE THREAD FITTING TORQUE

Before installing and tightening pipe fittings, clean the threads with a clean solvent or Loctite cleaner and apply sealant **LOCTITE® 567 PST PIPE SEALANT** for all fittings including stainless steel or **LOCTITE® 565 PST** for most metal fittings. For high filtration/zero contamination systems use **LOCTITE® 545**.

PIPE THREAD FITTING	
Thread Size	Torque (Maximum)
1/8-27	13 N·m (10 lb ft)
1/4-18	16 N·m (12 lb ft)
3/8-18	22 N·m (16 lb ft)
1/2-14	41 N·m (30 lb ft)
3/4-14	54 N·m (40 lb ft)

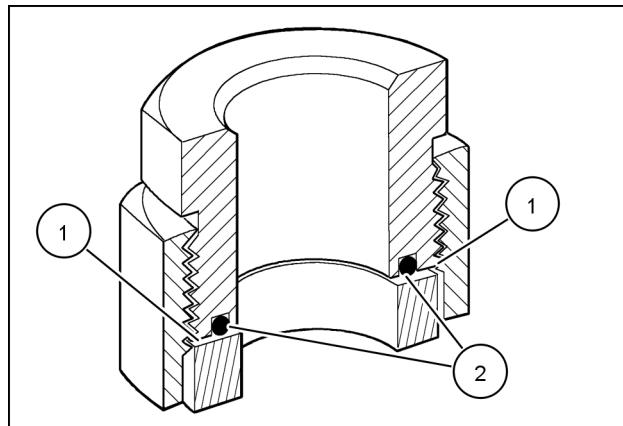
INSTALLATION OF ORFS (O-RING FLAT FACED) FITTINGS

When installing ORFS fittings thoroughly clean both flat surfaces of the fittings (1) and lubricate the O-ring (2) with light oil. Make sure both surfaces are aligned properly. Torque the fitting to specified torque listed throughout the repair manual.

NOTICE: If the fitting surfaces are not properly cleaned, the O-ring will not seal properly. If the fitting surfaces are not properly aligned, the fittings may be damaged and will not seal properly.

NOTICE: Always use genuine factory replacement oils and filters to ensure proper lubrication and filtration of engine and hydraulic system oils.

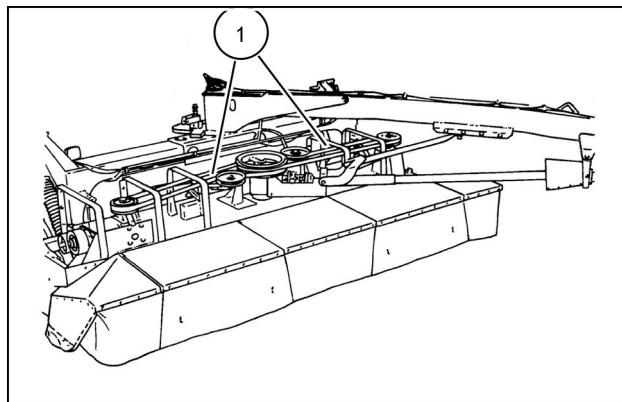
The use of proper oils, grease, and keeping the hydraulic system clean will extend machine and component life.



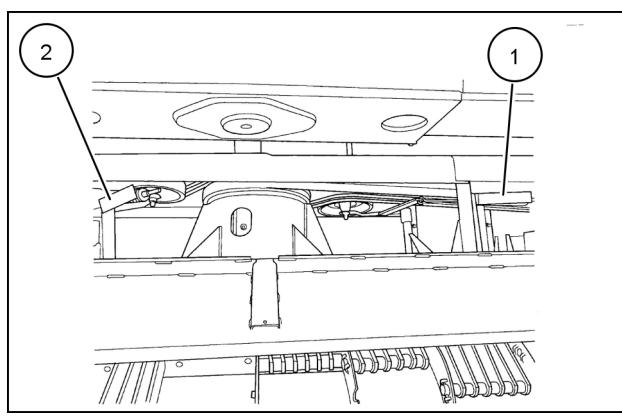
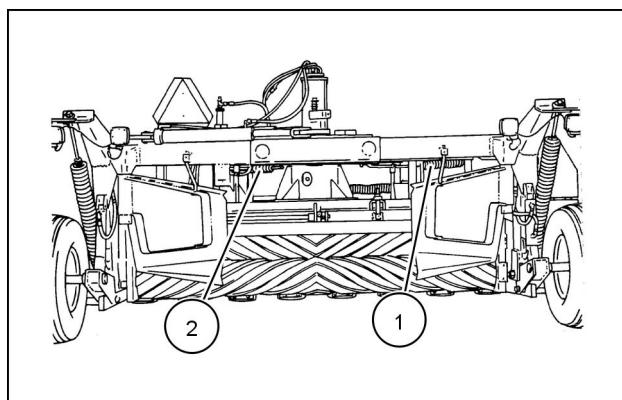
50011183 2

Header drive belt

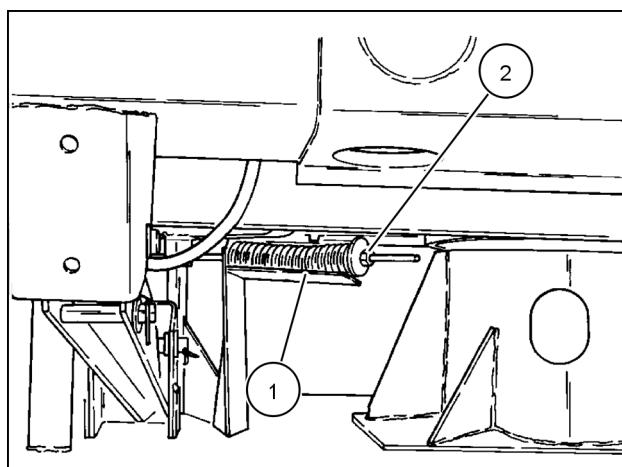
The header drive belts (1) must be properly tensioned at all times to prevent excessive slippage. Loose belts could result in poor cutting performance and conditioner roll plugging.



Check the belt tension each day for the first few days of service with a new belt. Check the belt tension weekly thereafter. The belt tensioners are accessed from the rear of the header, under the shielding. A separate tensioner is used for both the right side (1) and left side (2) drive belts.



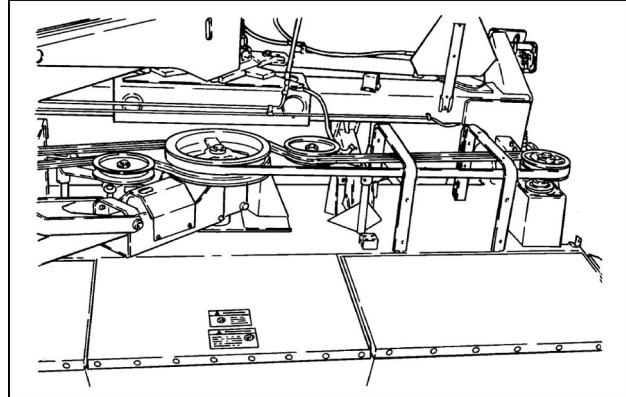
The header drive belts are tensioned by springs. The belts are properly tensioned when the spring is tightened to the length of the gauge (1). Loosen the jam nut, and tighten the adjusting nut (2) until the spring length matches the length of the gauge. Tighten the jam nut to secure. Repeat the process for the other belt tensioner.



Header drive belt

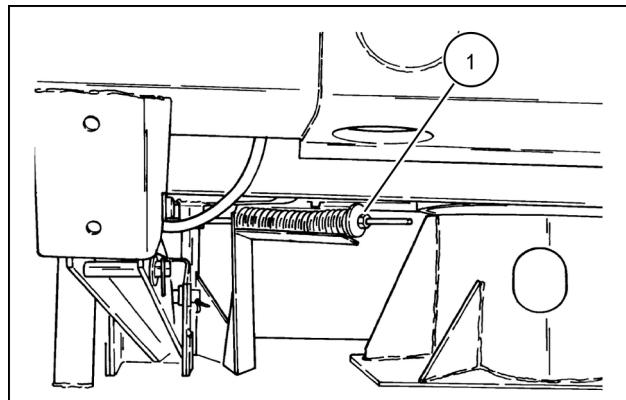
Left side drive belt

1. Remove the hardware retaining the center and two left side shields, and lift the shields off the unit.



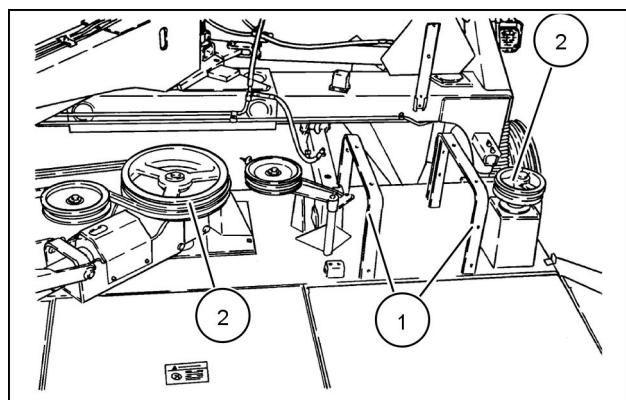
1431-2-29N 1

2. Remove the tension on the belt by loosening the jam nut and adjusting nut (1) on the spring tension rod until the belt can be removed from the sheaves. Slide the belt off the unit.



1431-2-22N 2

3. Slide the new belt under the shielding supports (1) and install it on the sheaves (2). Tighten the belt tensioner adjusting nut until the spring length matches the length of the gauge. Tighten the jam nut to secure.
4. Reinstall the shielding on the unit; position the center shield under the left and right middle shields, and the left end shield under the middle left shield. Install all hardware loosely to ensure a proper fit-up before tightening retaining bolts.



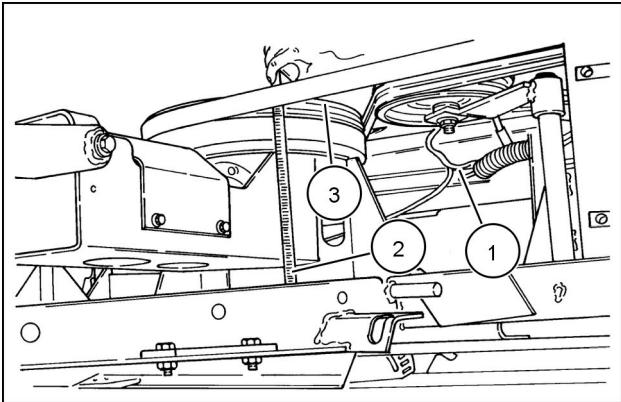
1431-2-30N 3

Belt and pulley alignment

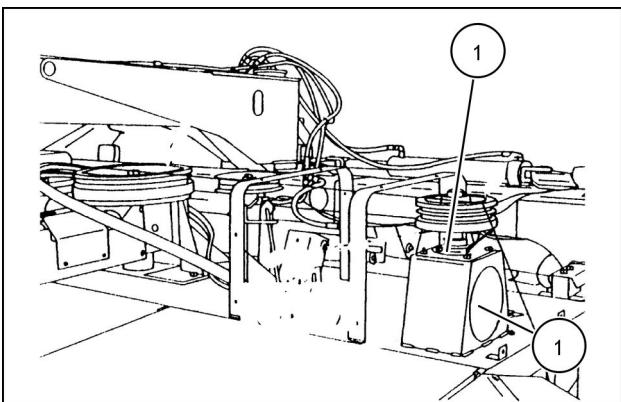
If the left-hand cutter bar drive belt will not stay in the grooves on the center pivot gearbox pulley, or if the belt has excessive "whip", the pulleys may need to be aligned.

NOTICE: The alignment of all the pulleys is very critical to the belt operation. This procedure must be followed in order to make certain that the belts are in proper alignment.

1. Remove the tension on the left hand drive belt at (1).
2. Measure the distance between deck (2) and the center rib for the top belt (3) of the center pivot gearbox pulley.
3. Loosen the lock collars and bearing flangettes on the left pedestal shaft (1).



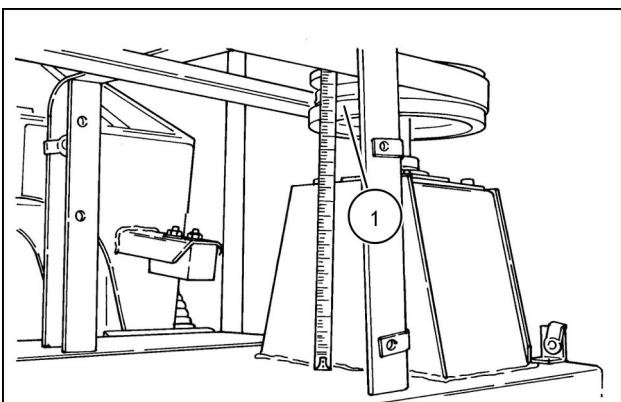
19986002N 4



1431-3-14N 5

4. Adjust the shaft so the center rib of pulley (1) is the same height from the deck as the center pulley. Check this dimension at four different locations to make certain the pulley is square with the deck. Tighten all mounting hardware and lock collars.

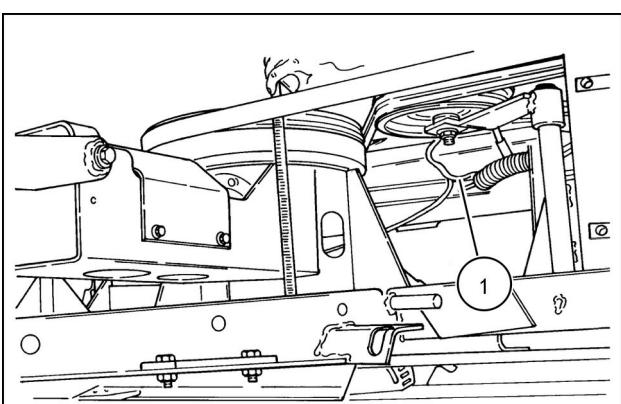
NOTE: Tighten all flangette hardware and then tighten the lock collars.



19986003N 6

5. Tension the belts by adjusting nut (1) until spring length matches the length of the gauge. Tighten the jam nut to the adjusting nut.

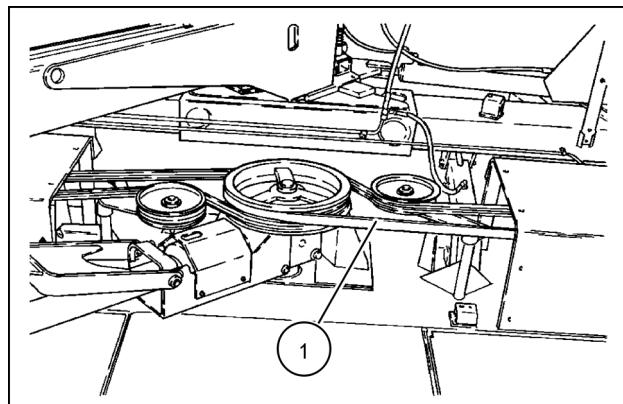
NOTE: It is normal for the one belt to have more "whip" in the drive side of the belt.



19986002N 7

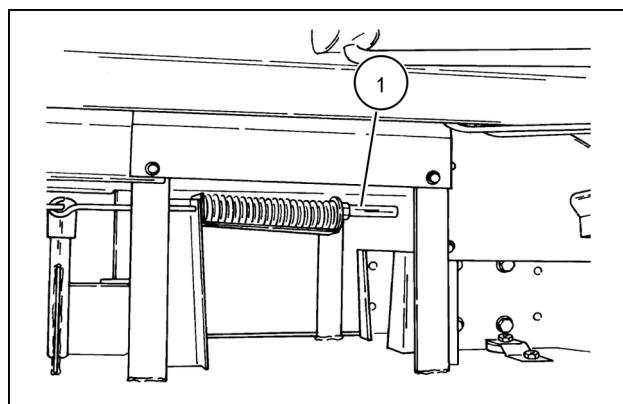
Right side drive belt

1. Remove the hardware retaining the center and middle left shields, and remove the shielding from the unit.
2. Remove the tension on the left side belt (1) by loosening the jam nut and adjusting nut on the spring tension rod until the belt can be removed from the center sheave.



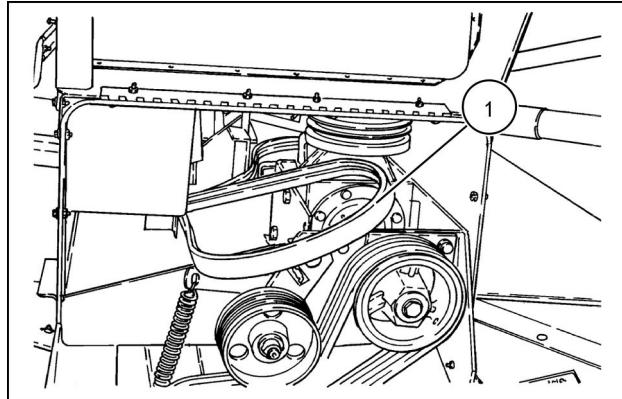
1431-2-28N 8

3. Remove the tension on the right side belt by loosening the jam nut and adjusting nut (1) on the spring tension rod until the belt can be removed from the center sheave.



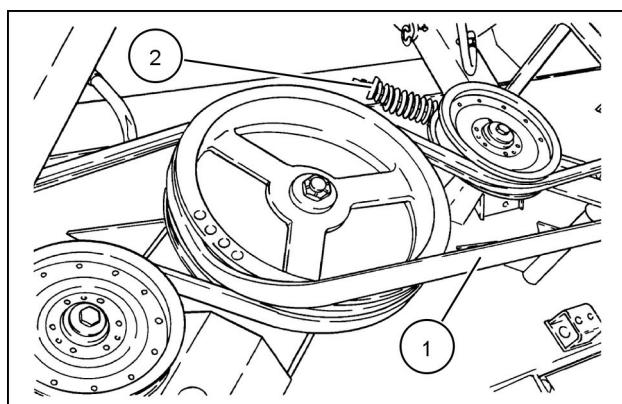
1431-2-23N 9

4. Flip open the right side shield, and remove the belt (1) from the sheave on the right angle gearbox. Slide the belt off the unit.
5. Slide the new belt under the shielding, and install it on the sheaves. Tighten the right side belt tensioner adjusting nut until the spring length matches the length of the gauge. Tighten the jam nut to secure.



1431-2-31N 10

6. Reinstall the left side belt (1) on the center sheave. Tighten the left side belt tensioner adjusting nut (2) until the spring length matches the length of the gauge. Tighten the jam nut to secure.
7. Reinstall the shielding on the unit; position the center shield under the left and right middle shields. Install all hardware loosely to ensure a proper fit-up before tightening retaining bolts.



1431-2-33N 11

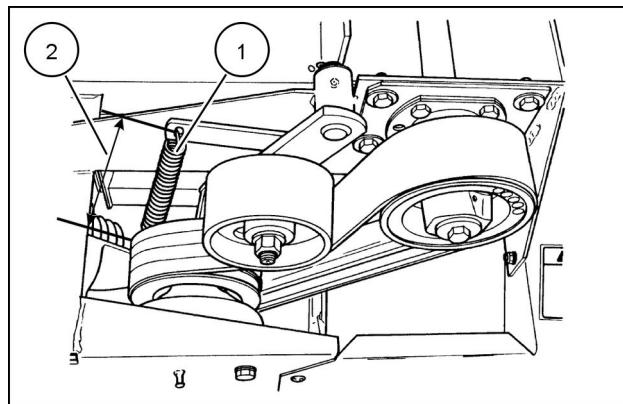
Conditioner belt

The conditioner belt must be properly tensioned at all times to prevent excessive slipping. A loose belt may cause conditioner rolls to wrap.

Check the belt tension each day for the first few days of service with a new belt. Check the belt tension weekly thereafter.

The conditioner belt is tensioned by a spring. The belt is properly tensioned when the spring (1) is tightened to a length of **279 mm (11 in)** (2) for roll conditioning model and **305 mm (12 in)** for flail conditioning model from inside hook to inside hook.

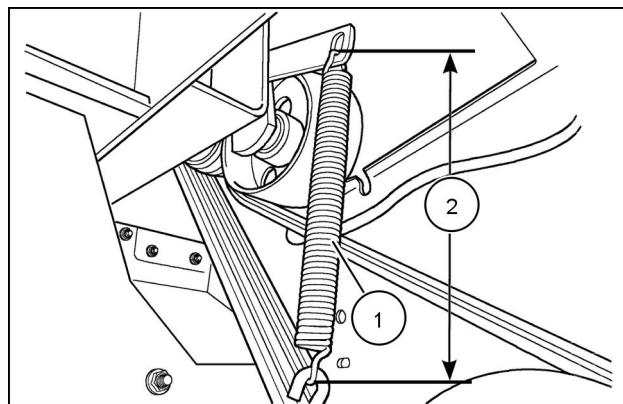
Roll conditioning



4835-13N 1

Loosen the jam nut and tighten the adjusting nut to stretch the spring to the correct length; tighten the jam nut to secure.

Flail conditioning

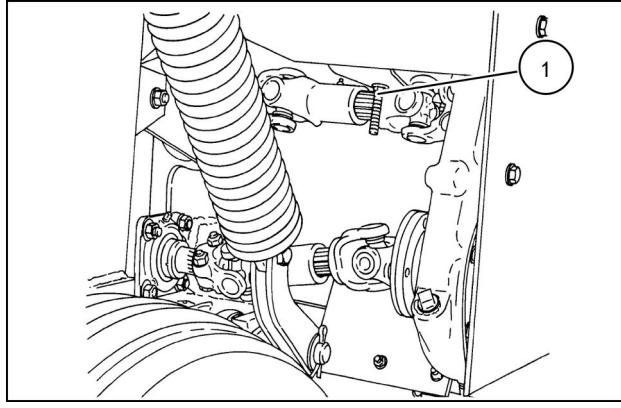


30000982N 2

Conditioner belt

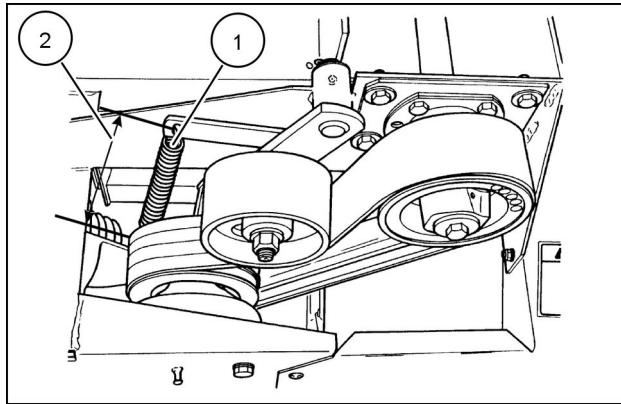
Roll conditioning model

Remove the tension on the belt by loosening the jam nut and adjusting nut (1) on the spring tension rod until the belt can be removed from the upper sheave. Slide the belt off between the sheaves.



4835-08N 1

Install the new belt onto the sheaves, and tighten nuts on spring tension rod to adjust spring (1) to a length of **279 mm (11 in)** (2) from inside hook to inside hook.

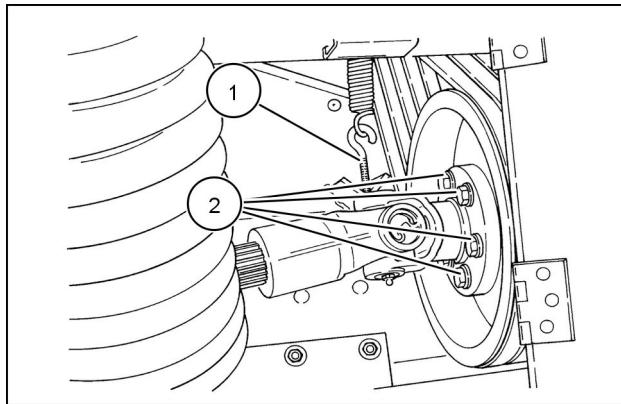


4835-13N 2

Flail conditioning model

Release belt tension by loosening the jam nut and adjusting the nut on the spring tension rod (1). Remove bolts (2) securing the drive shaft and sheave to bearing. Slide the drive shaft towards the rotor and fasten it with a short piece of wire to the frame tube. Remove the belt from the sheaves.

Install the new belt onto the sheaves. Slide the drive shaft towards the sheave, and install and tighten the bolts (2) to secure the drive shaft and sheave to the bearings.



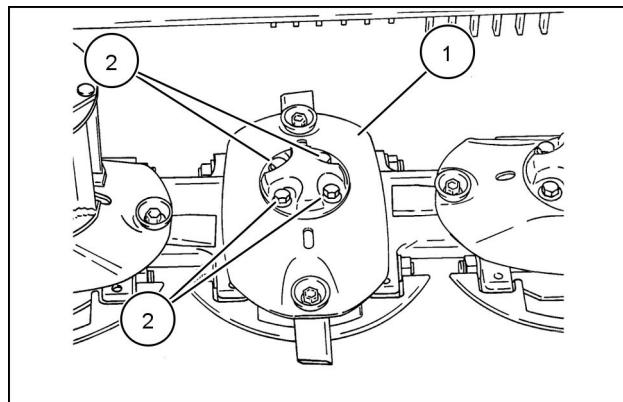
19985727N 3

Discs

Each time knives are replaced or turned, check the discs for damage and wear. If a disc is bent or cracked, replace it. When the leading edge (1) of the disc wears thin, it can be used on an opposite rotating module to utilize the second face.

NOTICE: Do not make weld repairs to the discs, as this will affect disc strength and balance.

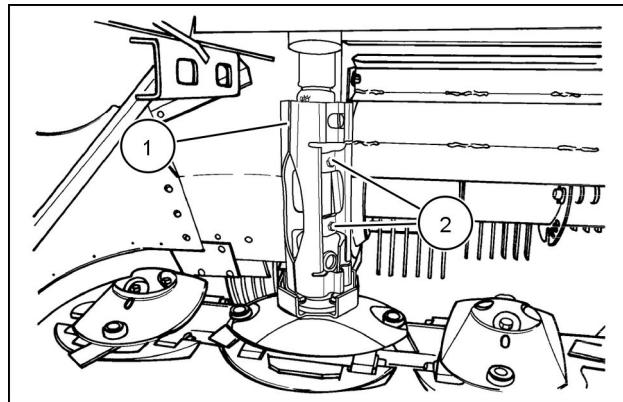
Remove discs by removing bolts at (2).



19982122N 1

Discs with towers (1) can also be removed.

Detach the tower halves by removing nuts and bolts at (2). There is also a lock washer and reinforcement on each side.



36082799N 2

Reinstall discs at right angles to each other as shown. Position the holes in the towers to align with the holes in the shaft. Be sure the correct hardware is installed as follows:

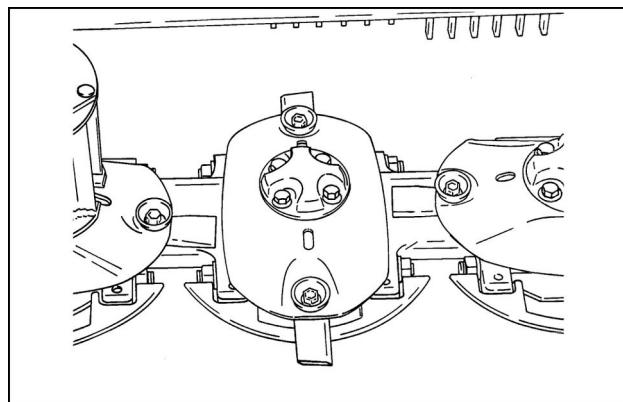
No.2 and No.9 discs,
towers and
drive shafts

1/2 in x 3 1/2 in cap screws
lock washers
reinforcement flange nuts

NOTICE: Use of incorrect disc retaining hardware may cause cutter bar lock-up and potential damage, or may prevent proper retention of discs.

Torque retaining bolts to **113 N·m (83 lb ft)**.

NOTE: Do not over tighten as bolts may yield.



19982122N 3

Cutter bar inspection

⚠ WARNING

Avoid injury!

Replaced damaged knives, knife hardware, or discs immediately to prevent an accident. This includes cracked or severely deformed knives.

Failure to comply could result in death or serious injury.

W0411A

⚠ WARNING

Moving parts!

Disengage the Power Take-Off (PTO), turn off the engine, and remove the key. Wait for all movement to stop before leaving the operator's position. Never adjust, lubricate, clean, or unplug machine with the engine running. Failure to comply could result in death or serious injury.

W0112A

⚠ CAUTION

Sharp object!

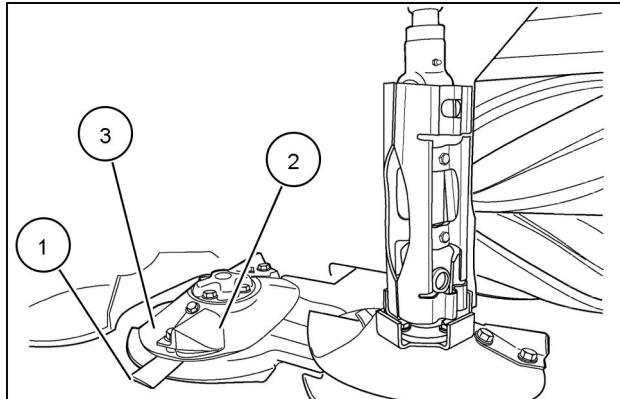
Wear gloves when handling worn discs. Failure to comply could result in minor or moderate injury.

C0006A

The cutter bar should be inspected for damage or wear on a regular basis, such as when turning or replacing knives. Inspect the cutter bar more frequently when operating in known rocky conditions.

- Inspect the external components for damage, paying particular attention to the knives (1), lifters (Roll conditioning models only) (2), and discs (3). Broken knives and bent or cracked discs and lifters are a result of contact with solid foreign objects, and may indicate possible internal damage. A disc out of time may also indicate internal damage; the discs are properly timed when they are positioned **90 °** to each other as shown.

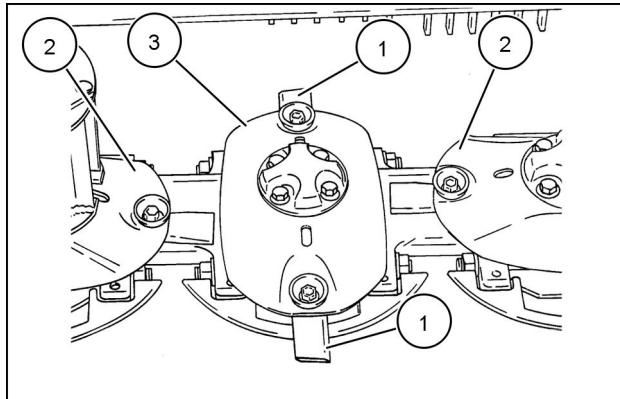
Roll conditioning



36082796N 1

Misalignment or gaps between the disc modules and spacers may indicate the tie bolts are loose or broken, or the dowel pins between the components have failed or are missing.

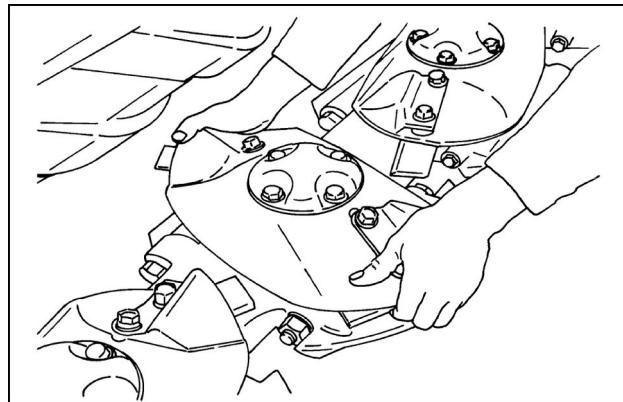
Flail conditioning



19982122N 2

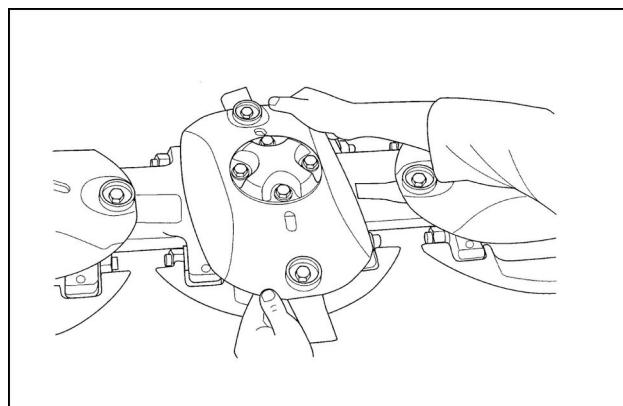
- Carefully grab both ends of each disc, and try to "rock" the disc up & down. A small amount of movement [**1.5 mm (0.060 in)**] is normal; an excessive amount of movement may be the result of a loose disc hub retaining bolt, or could indicate a worn top cap housing or bearings. Disc modules with excessive disc "rock" should have the disc bolts and disc hub bolt checked for proper torque. The proper torque twelve point cap screw is **183 N·m (135 lb ft)**. Replace the disc hub retaining bolt if it has loosened; the bolt is equipped with a locking agent. If the bolts are tight, and movement still exists, the top cap assembly may need to be replaced. Contact your authorized dealer for more information.

Roll conditioning



1431-2-60N 3

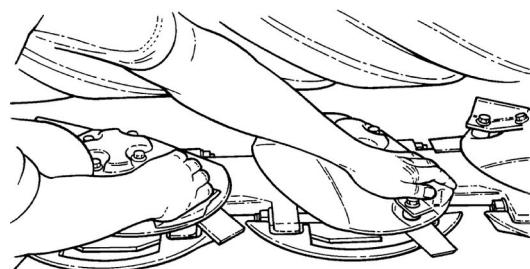
Flail conditioning



19993799N 4

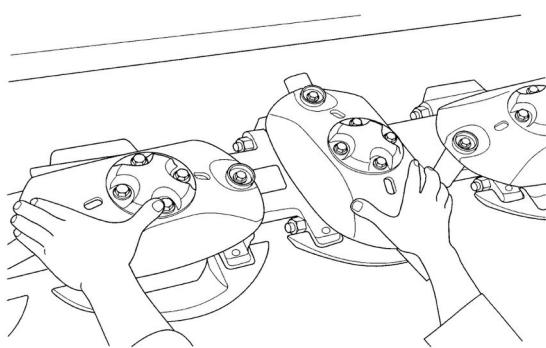
- Starting at the left end of the cutter bar, grab both the No.1 and No.2 discs, and slowly rotate both discs while applying pressure to one of the discs against the direction of rotation. If one disc suddenly moves, it may indicate damage to the gear teeth in that module. Excessive free play between discs, or if one disc may be turned freely without the other disc moving, may indicate shock hub failure. Some rotational free play [**5 mm (0.20 in)**] between adjacent discs is normal, as a result of the backlash in both gear sets. Check all disc modules by working across the cutter bar, checking each disc to the next disc. If a problem is discovered, replace the shock hub.

Roll conditioning



1431-2-44N 5

Flail conditioning



19993801N 6

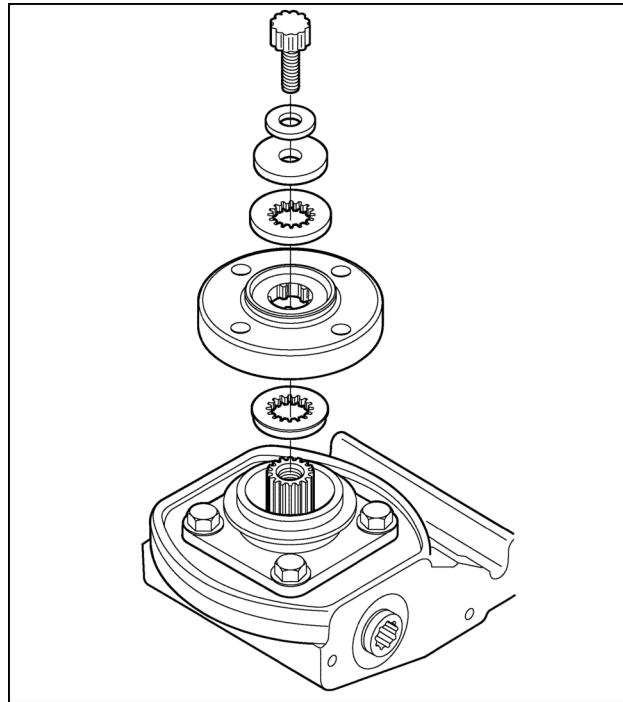
ShockPro™

The Shock Hubs are intended to provide shock protection to the individual cutter bar modules upon contact with large obstacles or jamming of bent knives. The shock hub has a reduced number of splines, which will shear prior to failing gear teeth.

NOTICE: PTO - driven discs do not use shock hubs.

Detecting a sheared shock hub

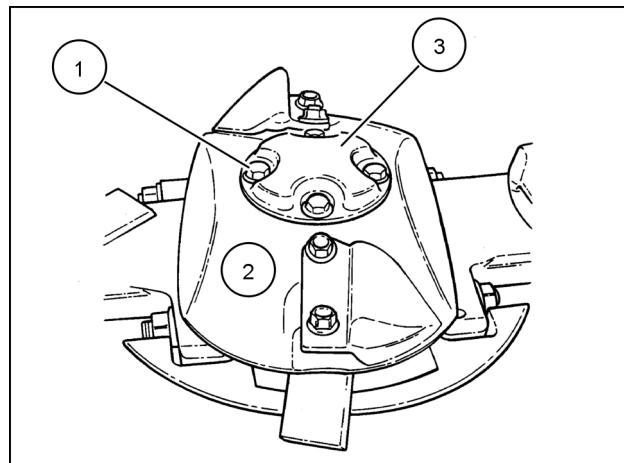
It should be obvious if a hub has sheared because the disc will be mistimed, causing knives to tick or the cut quality may become worse. Excess wobble or 'rocking' of a disc may indicate that the hub has sheared and/or that the center bolt is loose. It could also indicate a failed bearing.



56064433 1

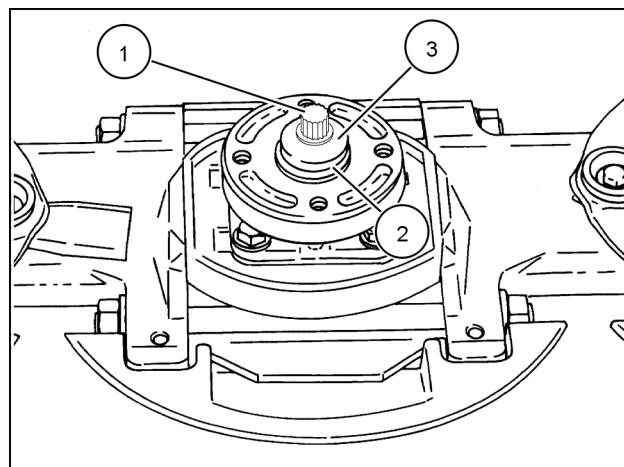
ShockPro™ replacement

1. Remove four bolts (1) from disc.
2. Remove disc (2) and bolt cover (3).



2-48 1

3. Remove 12 pt cap screw (1) hardened washer (2) and conical washer (3).



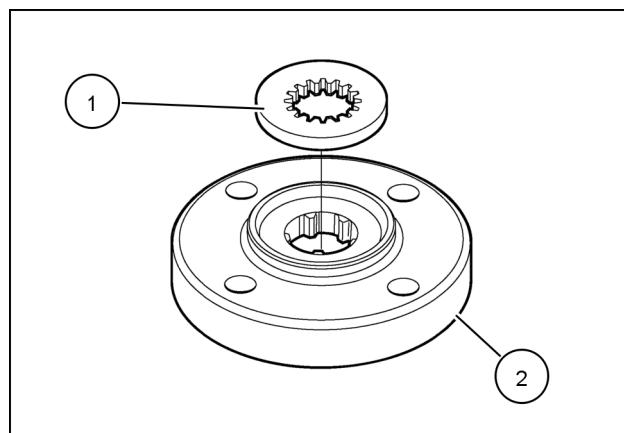
50022441 2

4. Remove splined washer (1) and shock hub (2) together from disc module.

NOTE: DO NOT remove seal hub unless it is damaged. Replace if damaged.

5. Clean metal spline fragments from gearshaft.
6. Wipe entire area clean of metal fines.

NOTICE: Metal fragments and fines must be cleaned off the top of the seal hub to get even clamping on mating surfaces. Uneven clamping could crack the seal hub.



56064436 3

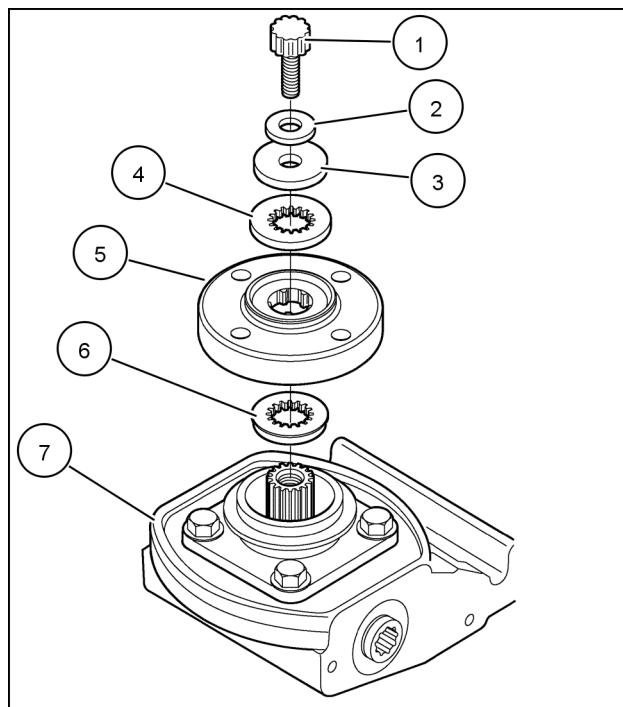
7. Re-install splined seal hub, (6) (if removed).
8. Install new shock hub (5) on disc module (7).
9. Time the shock hub with the rest of the cutter bar such that the discs will be **90 °** apart.
10. Re-install splined washer (4).

NOTE: *Inspect splined washer. If it is damaged, replace.*

11. Install new top cap center bolt (1) new conical washer (2) and new hardened washer (3). Torque bolt to **183 N·m (135 lb ft)**.

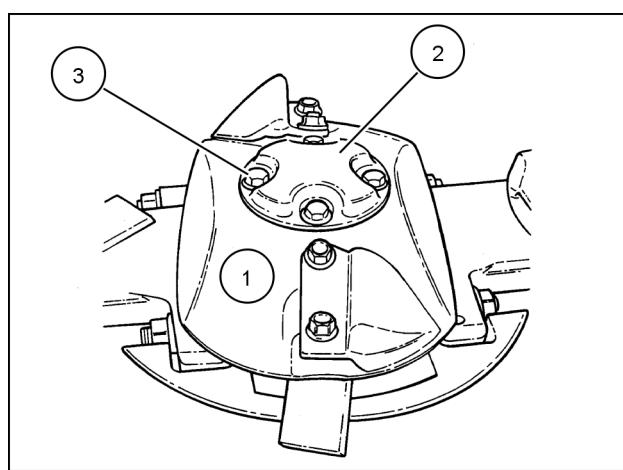
NOTE: *When installing conical washer, be sure to have the cupped side facing down.*

NOTICE: *DO NOT over-torque or under-torque top center bolt. Bearing life may be compromised if this bolt is over-torqued. DO NOT use an impact wrench to torque top cap center bolt, hand torque only.*



56064433 4

12. Install the disc (1) and bolt cover (2) with the four retaining bolts (3). Torque retaining bolts to **113 N·m (83 lb ft)**.



2-48 5

Knife and bolt inspection

⚠ WARNING

Flying objects! Machines with rotary discs can fling foreign objects toward the operator. Keep all skirts and shields in place. Failure to comply could result in death or serious injury.

W0024A

⚠ WARNING

Avoid injury! Replaced damaged knives, knife hardware, or discs immediately to prevent an accident. This includes cracked or severely deformed knives. Failure to comply could result in death or serious injury.

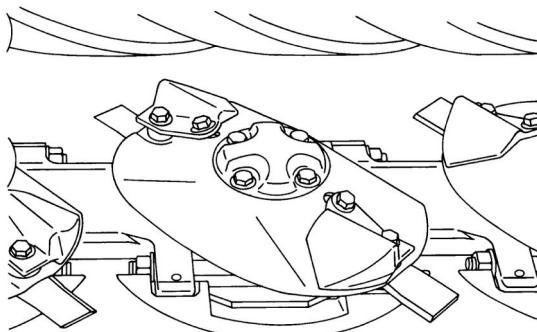
W0411A

Inspect the cutter bar daily for damaged components. The quality of cut and safety of operation depends on regular inspection of the cutter bar. Check the discs, knives, and hardware systematically for wear, damage or loose components.

Operating over rough terrain and rocky conditions can cause the knives to crack or deform leading to cutting problems, increase of safety risks, and possible cutter bar damage.

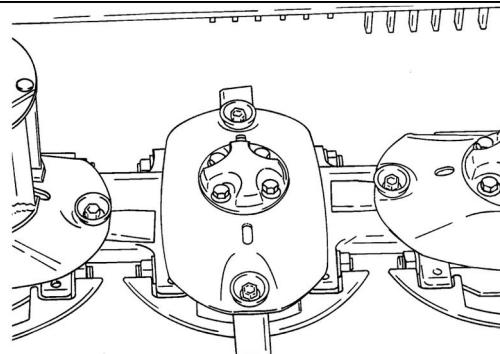
NOTE: Striking an object can cause knife hardware to loosen. If an obstacle is struck, STOP. Check all hardware and retighten.

Roll conditioning



4896-10N 1

Flail conditioning



19982122N 2

The knives must be replaced or turned over to a new cutting edge on a timely basis to maintain good cutting performance. Dull knives will require more horsepower to cut the crop and will leave a ragged stubble.

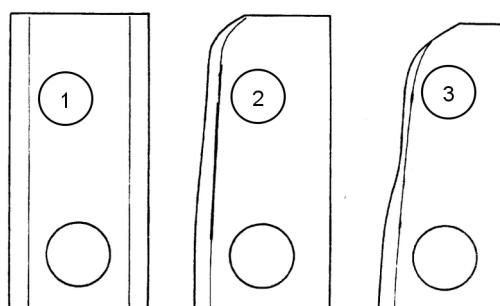
Replace the knives if they are bent, severely worn, or if the hole is elongated. Replace the knife bolt if wear is found or the nut can be installed by hand.

Three knives are shown. Knife (1) is a new knife. Knife (2) is worn and should be rotated. Knife (3) is severely worn and should be replaced.

Replace the knife nut if the shoulder or threads show wear.

NOTE: The knife bolts have a lock patch on them. If the knife nuts can be installed by hand, replace the bolt.

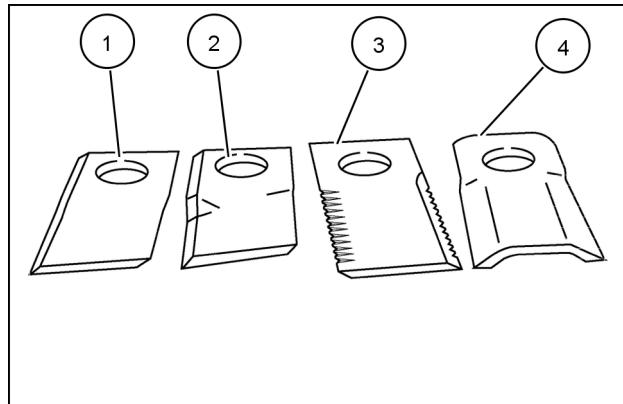
When a knife or securing hardware is in question, replace it.



19991314N 3

There are four styles of knives to choose from, each style is designed for general field conditions. The **7 °**twist knives (1) are recommended for cutting conditions in abrasive soil and crop conditions. In most crop conditions, the standard **14 °** twist knives (2) may provide a cleaner cut than the **7 °** knives. The **14 °** knife is also available in a serrated version (3). The serrated knife will last longer and is more aggressive. It works well in sudan and grass seed. Where excessive knife bending is a concern, for example in rocky conditions, the V knives (4) may be used.

If the cutter bar cannot be turned by hand due to crop buildup under the discs, start the tractor and operate the PTO at 1/3 rated speed for 30 seconds. Shut the tractor off and recheck. If the cutter bar still cannot be turned by hand, it will be necessary to remove the discs and clean out the material build-up.



76075992N 4

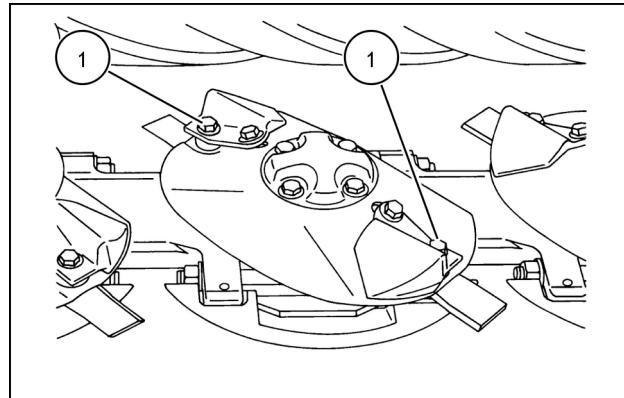
Knife replacement

NOTICE: Inspect the cutter bar for leaks or other needed repairs whenever performing service work on the bar. If a leak is found, repair it immediately to prevent possible future failures.

NOTICE: Always replace both knives on a disc to maintain balance. Do not intermix old and new knives on a disc.

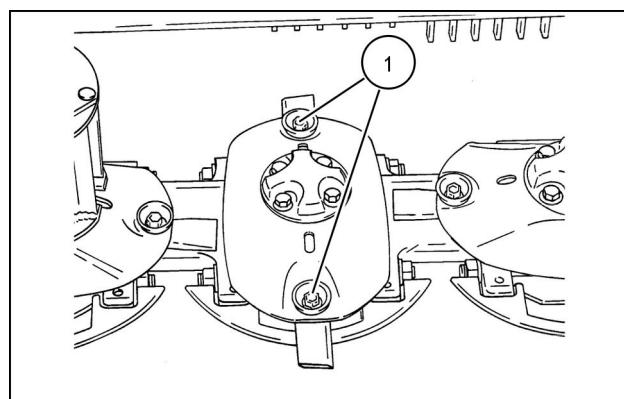
1. Remove the dirt around the knife bolt (1).

Roll conditioning



4896-10N 1

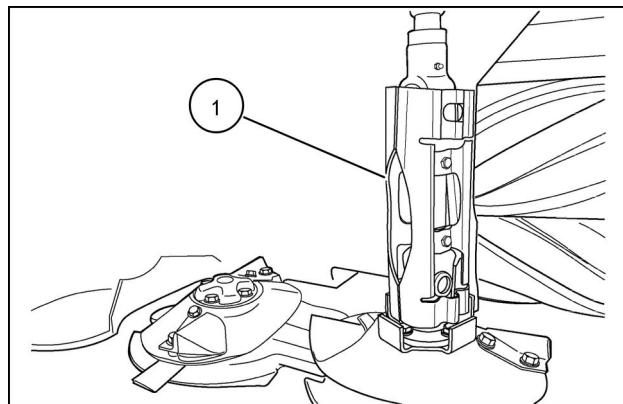
Flail conditioning



19982122N 2

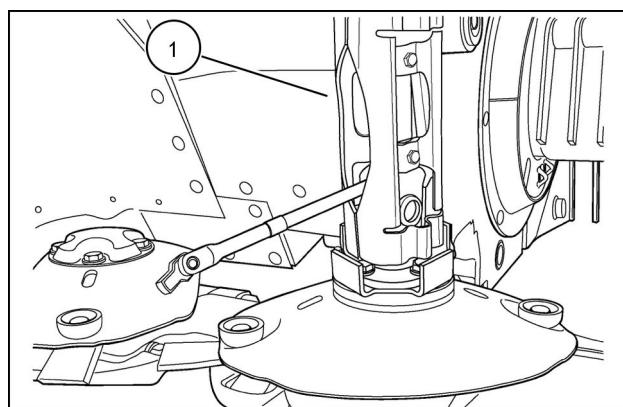
2. Install a bar through a drive tower (1) to block the discs in place.
3. Remove the bolt with a socket. If necessary hold the nut in place from the bottom with your hand. This will keep the nut from turning.
- NOTE:** If you are using an impact wrench use a bar to hold the nut in place, not your hand.
4. The knife and the nut can be removed from under the disc after the bolt is removed.
5. Knives can be turned over to use the opposite cutting edge after they become dull or nicked. All knives are angled. Knives are referred to as clockwise or counter-clockwise depending on which disc they are attached to.

Roll conditioning



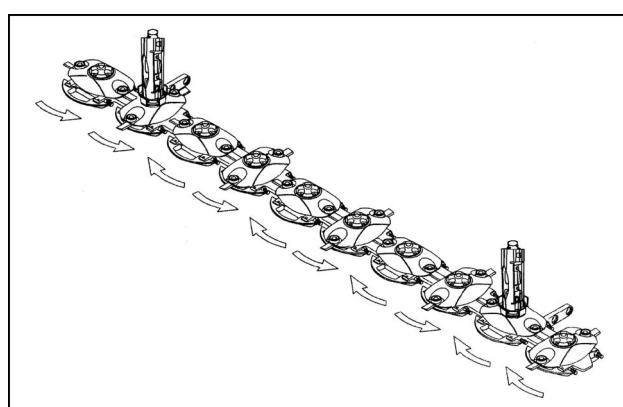
36082796N 3

Flail conditioning



36082800N 4

6. The leading edge of the knives must be lower than the rear edge. On the disc mower-conditioner, the two end discs on each end of the cutter bar rotate in the same direction (co-rotate). All other cutter bar discs rotate in opposite directions (counter-rotate). Refer to the accompanying drawing as to which way the discs turn.

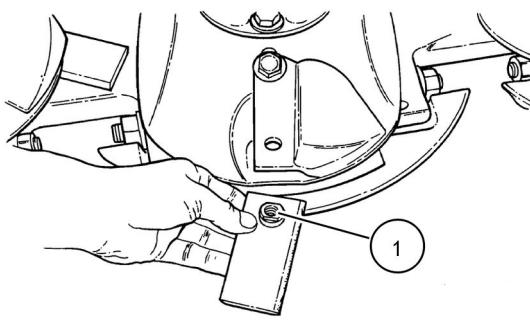


36082801N 5

7. Install the nut through the knife and insert the nut (1) into the bottom of the discs, aligning it with the slot in the disc.
8. Reinstall the knife bolt and torque it to **159 N·m (117 lb ft)**.

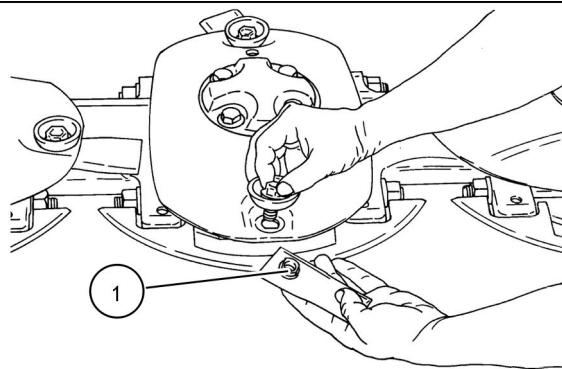
NOTE: After all knives are installed, turn the cutter bar by hand and check to be sure all knives are installed in the right direction and there is no interference.

Roll conditioning



1431-2-46N 6

Flail conditioning



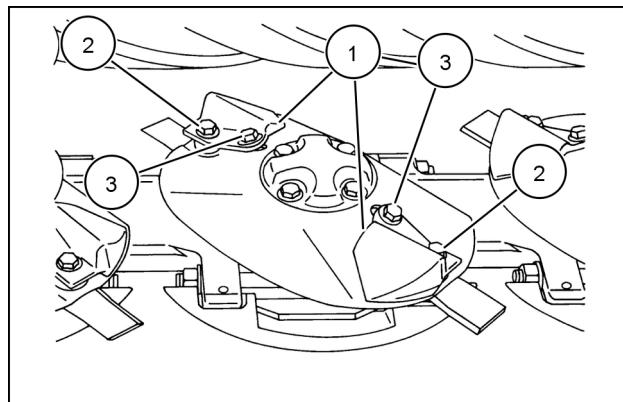
19982124N 7

Crop lifter replacement

- Roll conditioning model only

The crop lifters should be inspected daily for wear or damage. Replace the lifters (1) when the sloping surfaces wear thin or wear through, or if the lifter is bent or cracked. Replace the lifter by removing the knife bolt (2) and the lifter bolt (3). It will be necessary to slide a wrench under the disc to hold the flange nut on the lifter bolt. Torque the bolts to **159 N·m (117 lb ft)**.

NOTICE: Replace both lifters on a disc to maintain balance. Do not make weld repairs to the lifters, as this will affect lifter strength and balance.

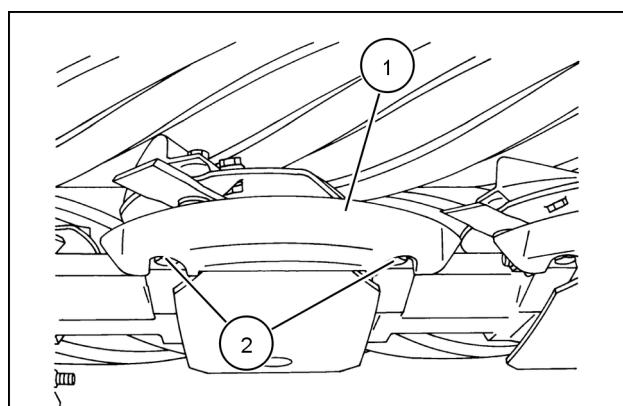


4896-10N 1

Rock guards

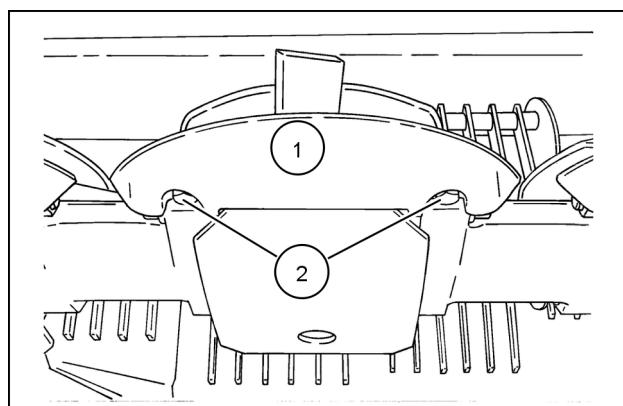
Rock guards (1) can be removed by removing bolts (2). Broken rock guards should be replaced immediately. Rock guards which are worn thin should be replaced before they break.

Roll conditioning



5000-11N 1

Flail conditioning



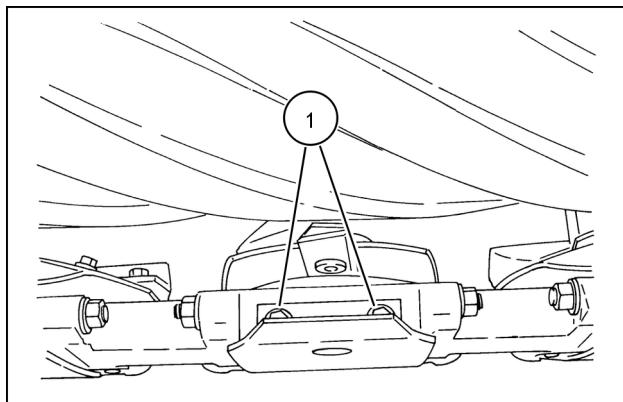
19982131N 2

Skid shoes

Skid shoes can be removed by removing bolts (1) (Roll conditioning model shown). Reinstall the skid shoe by inserting the forward edge up into the rock guard, and lift the rear up to align the bolt holes.

NOTE: *It may be easier to install the skid shoe by first loosening the rock guard mounting bolts.*

Broken skid shoes should be replaced immediately. Skid shoes which are worn thin should be replaced before they break.



5000-09NN 1

Slip clutch

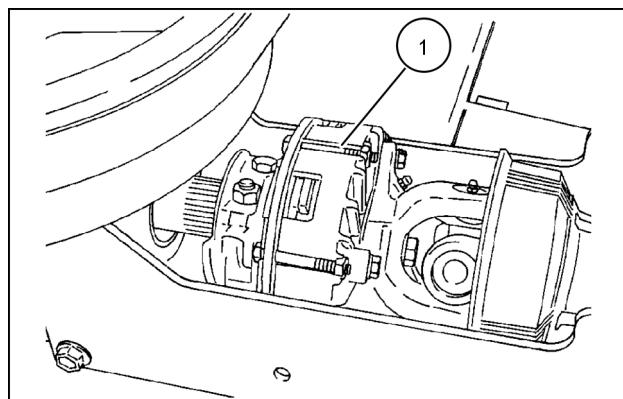
⚠ WARNING

Moving parts!

Disengage the Power Take-Off (PTO), turn off the engine, and remove the key. Wait for all movement to stop before leaving the operator's position. Never adjust, lubricate, clean, or unplug machine with the engine running. Failure to comply could result in death or serious injury.

W0112A

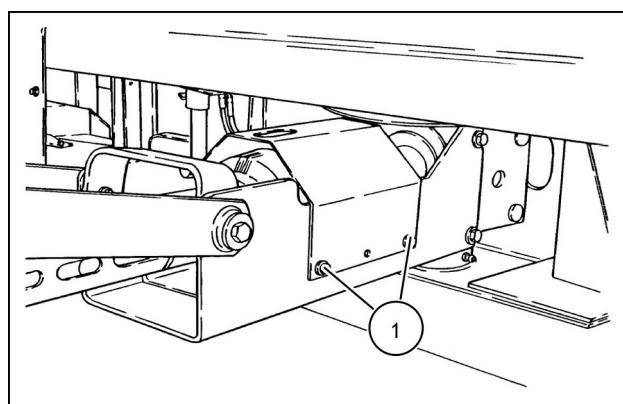
The slip clutch (1) on the disc mower-conditioner is part of the secondary PTO drive shaft, and is mounted on the input shaft of the center pivoting gearbox. It is set to slip in the event an overload occurs during machine operation. New clutches and any clutch which has not been used for approximately 60 days should be burnished to ensure they are not locked up.



1431-1-43NN 1

To burnish the slip clutch:

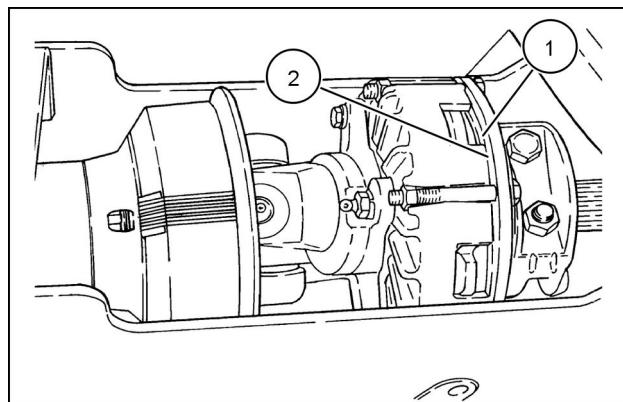
1. Remove PTO from tractor. Remove the shielding over the slip clutch by removing the retaining bolts (1) and lifting the shield off the center gearbox channel. Loosen the cap screws 1/2 turn at a time until cap screws are just loose, then retighten all cap screws one half turn.
2. Re-attach PTO to tractor.
3. Operate the tractor at 1/3 throttle, and engage the tractor PTO for a few seconds, or until the slip clutch visibly smokes, at which time, disengage the tractor PTO. Turn the tractor off. If the clutch does not slip, the clutch must be disassembled to unlock the friction discs. Consult your authorized dealer for slip clutch service.
4. After slipping the clutch, retighten the cap screws 1/2 turn at a time until the compression plate (1) contacts the clutch housing (2).



1431-2-36N 2

NOTICE: The slip clutch is set at **1356 N·m (1000 lb ft)** [static] of breakaway torque. Do not alter the slip clutch setting or damage to the machine could result.

5. Grease the fitting on the yoke using lithium grease.
6. If there is an integral overrunning clutch, make sure the clutch turns freely in one direction.
7. Reinstall the shield over the slip clutch and secure using the bolts previously removed. Position the shield so that the access hole is forward.

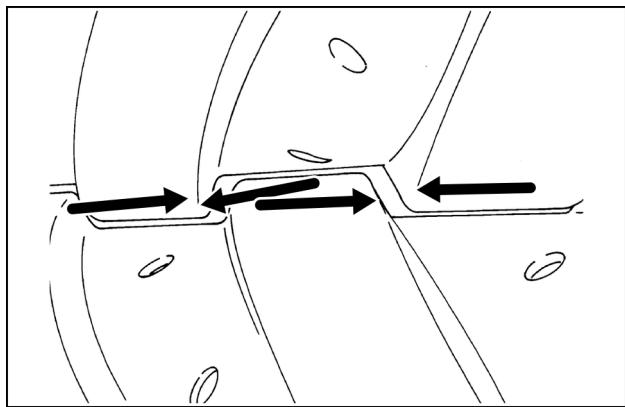


1431-2-34N 3

Conditioner roll timing

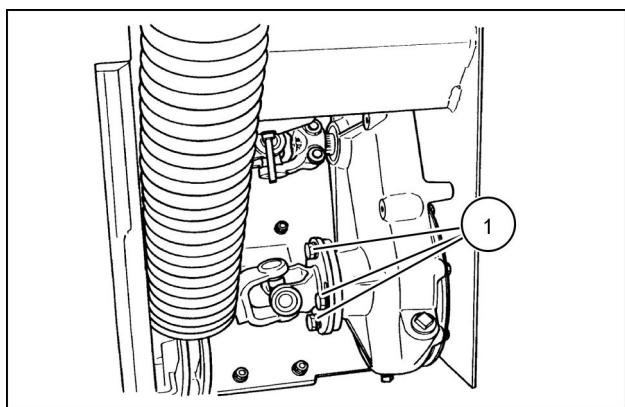
- Conditioning roll model only

Occasionally check the rolls for proper timing. The lug of one roll should be centered between the two lugs of the opposite roll. The lugs must not touch.



1431-11-8-12N 1

To reset the timing, loosen the **1/2 in** cap screws (1) on the lower roll drive yoke flange. Then center the lower roll lug in the top roll lug gap while applying hand force on the top roll in the direction opposite the normal rotation. Tighten the cap screws, then recheck the timing by applying reverse rotational force on both rolls.



4835-07N 2

Roll gap

- Roll conditioning model only

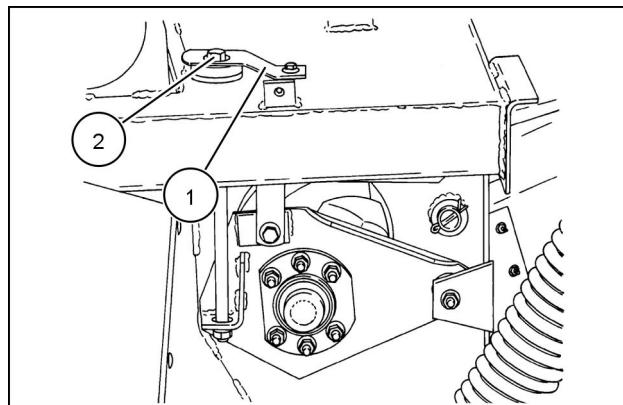
The rolls should be as close as possible in most conditions but should never touch each other at any point in the rotation of the rolls. Check the clearance with roll pressure applied and rotate the rolls one complete revolution to determine the minimum clearance point.

The roll gap is the space between the land of one roll and valley of the opposite conditioning roll. This space should be kept between **0.4 - 3 mm (1/64 - 1/8 in)** for rubber rolls and **5 - 7 mm (0.20 - 0.28 in)** for steel rolls to provide the best performance.

Adjust the gap by turning bolt **(2)** on each end of the header. The roll clearance will change approximately **2 mm (1/16 in)** per revolution of the bolt. Be sure to position the bolt lock plate **(1)** over the bolt head after adjustment.

NOTICE: *The conditioning rolls must not contact each other during operation or severe machine vibration will occur.*

Check the rolls occasionally for material buildup. Remove accumulations that may be present to prevent roll contact and that will reduce conditioning effectiveness.



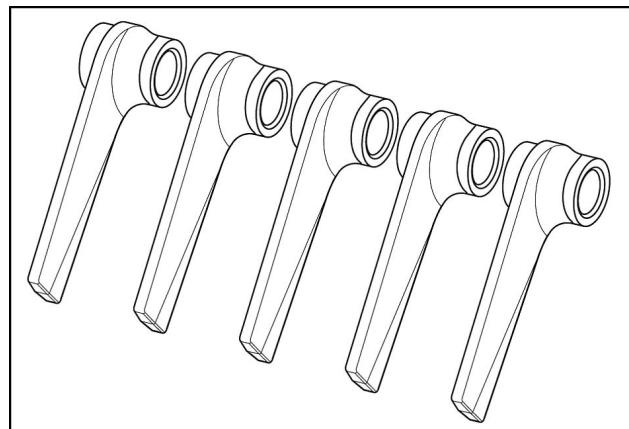
4831-03N 1

Flail replacement

- Flail conditioning model only

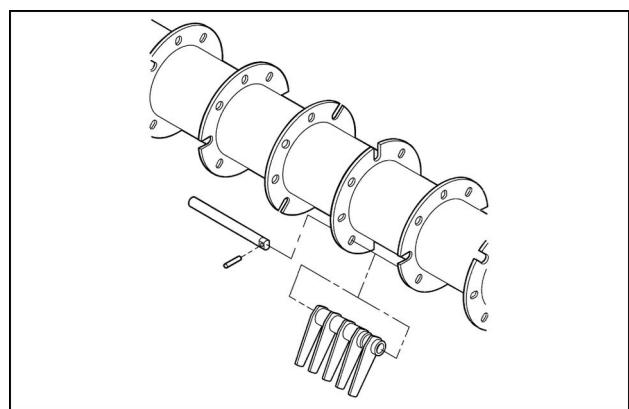
The flail conditioner consists of individual free swinging cast flails. Each flail should be replaced if it becomes worn or damaged.

The flail shaft should be replaced if it becomes worn.



76113262 1

The flail castings pivot freely on shafts that are secured to the rotor by a roll pin at one side of the disc. To replace damaged flails, drive out the roll pin (1) with a punch from the shaft and slide the shaft to the side to remove the flails from the rotor. The shaft may be removed completely by sliding the shaft through the notch in the disc.



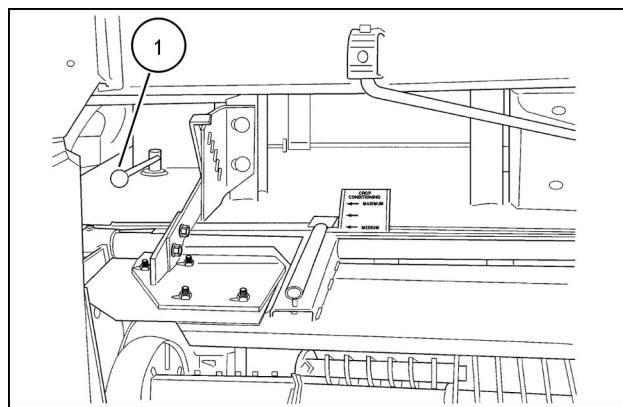
50051122N 2

Hood liner replacement

- Flail conditioning model only

A bolt-in, replaceable hood liner is standard on the disc mower-conditioner to provide extended life and prevent wear to the hood. If the hood liner becomes worn or damaged, then a new liner should be installed.

To remove the hood liner, turn the hood crank (1) clockwise to lower the hood to its lowest position.

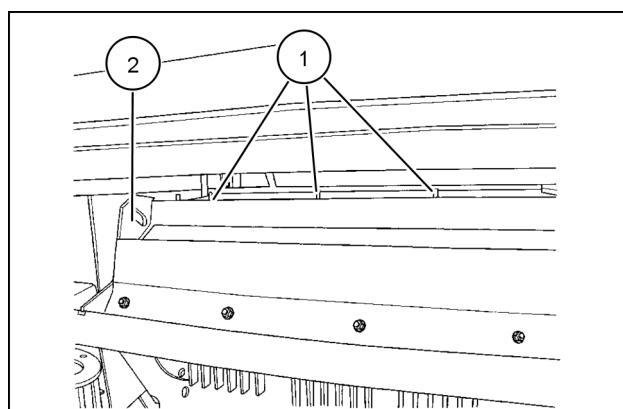


19985216N 1

It may be necessary to remove the down stop spacer and cap screw (1) at the end of the rotor hood to gain access to the mounting hardware.

Loosen the hardware, remove the hood liner sections, and replace each liner section.

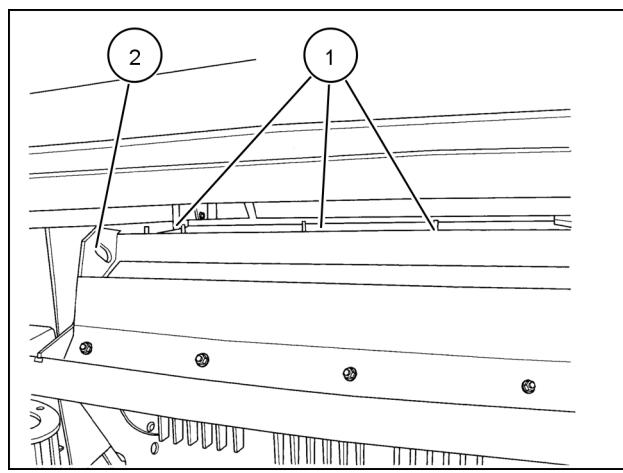
Secure the front of each hood liner section to the front of the hood using $3/8$ in x $3/4$ in carriage bolts (2), washers, and flange nuts. Tighten securely.



19985251NNN 2

Secure the rear of each hood liner section using $3/8$ in x $3/4$ in carriage bolts (1), washers, and flange nuts. Tighten securely.

Reinstall the down stop spacer and cap screw (2) at the ends of the rotor hood, if these were removed to gain access to the mounting hardware.



19985251 3

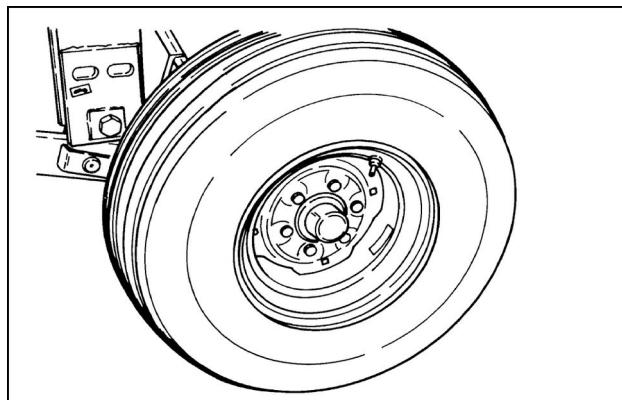
Wheels and tires

The disc mower-conditioner uses **31.5 x 13.5L x 15**, 6 ply tubeless tires. Do not substitute a different sized tire as load carrying capacity may be compromised.

Tires should be inflated to **207 kPa (30 psi)**.

Limit highway transport speeds to **32 km/h (20 mph)** to prevent tire failures.

Check the wheel bolt torque before operating and also after the first two and ten hours of use. Torque the wheel bolts to **156 N·m (115 lb ft)**. Recheck the wheel bolt torque after every 50 hours of use.



1431-2-49N 1

Parking the machine

⚠ DANGER

Crushing hazard!

The header will fall if it is not locked in the transport position or lowered to the ground before starting the bleed off procedure. Before you begin, raise the header and engage the lift locks OR lower the header. This procedure relieves all pressure from the header lift and tilt hydraulic system.

Failure to comply will result in death or serious injury.

D0036A

When cutting is finished:

1. Disengage the tractor PTO. Park the machine on a level area.
2. Pivot the header to the transport position.
3. Lower the header to the ground or let the header rest on the lift locks.
4. Remove the jack from the storage position and install it to support the tongue.
5. Remove the front PTO from the tractor PTO shaft.

NOTICE: The tractor end of the primary PTO shaft has a CV joint which is heavy. Be careful when handling it, dropping it could cause personal injury to yourself and damage the CV joint.

6. Disconnect the hydraulic hoses and store them in the key hole slots provided on the tongue.

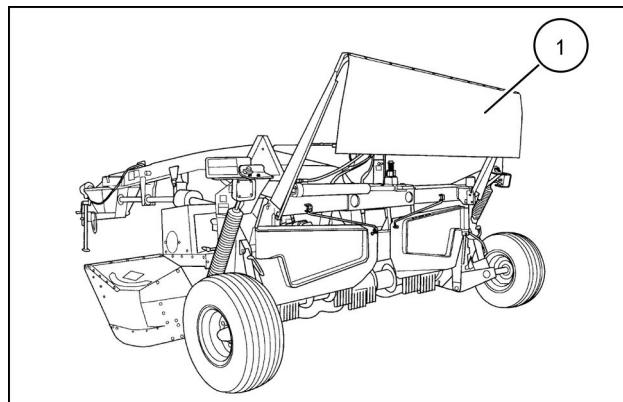
Storing the disc mower-conditioner

When preparing the disc mower-conditioner for storage:

1. Clean the disc mower-conditioner. Remove any buildup of debris and any wrappage from the cutter bar components.
2. Lubricate the disc mower-conditioner completely.
3. Drain the oil from all gearboxes and all modules, and refill with new, clean oil of the correct specifications to the correct level. Run the disc mower-conditioner for a few minutes.
4. Inspect for worn or broken parts. Replace with genuine factory parts.
5. Relieve roll pressure. (Roll conditioning model only)
6. Remove pressure from the two header drive belts and the conditioner drive belt.
7. Clean the cutter bar or rusted areas and touch up with factory paint. Spray cans are available from your authorized dealer.
8. Store the machine where it is not exposed to the weather.
9. Park the machine with the transport locks engaged. If the cutter bar is lowered to the ground, place wood blocks under the cutter bar to prevent direct ground contact.
10. Check and adjust the tire pressure to **207 kPa (30 psi)**.

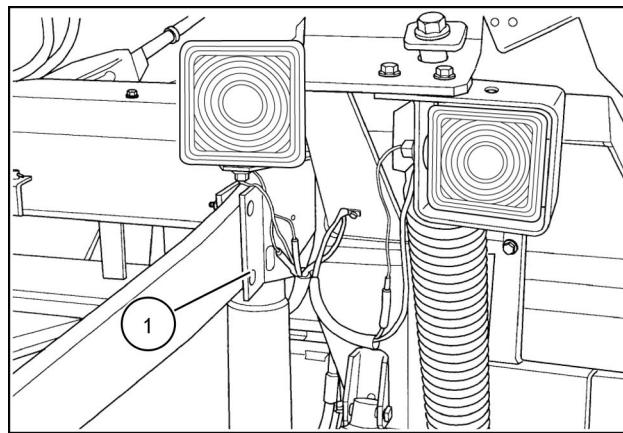
Storage in shed- flail units only

The rear curtain (1) of the disc mower-conditioner serves as a deflective shield to prevent flying debris from the disc mower-conditioner. The curtain and supports, along with the windrow shields, may be folded to conserve storage space in the off season.



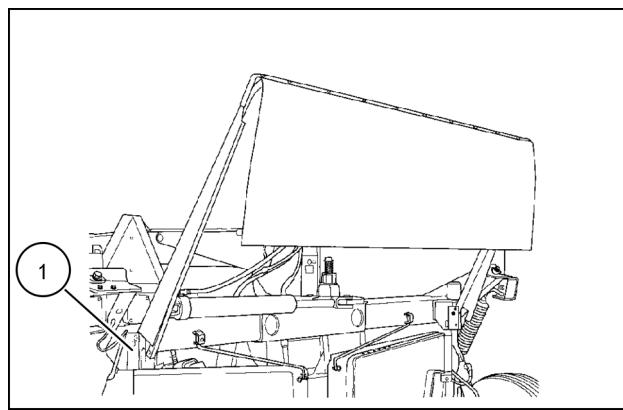
19985247N 1

Remove the lower bolt and nut (1) on each side of the support rails. Loosen the top bolt.



76106738 2

Raise the curtain upwards and replace the bolt and nut at (1) on each side of the support, and tighten both bolts securely.



19985248NNN 3

6 - TROUBLESHOOTING

SYMPTOM(S)

CROP PROCESSING - Troubleshooting

Problem	Possible Cause	Correction
Leaves damaged or stripped off stems.	Too much pressure on the rolls.	Reduce the pressure until the leaves are not damaged.
Leaving ragged or long stubble.	Ground speed too fast.	Reduce the ground speed.
	Dull, bent, or broken knives.	Turn over or replace the knives.
	Knives installed on wrong discs.	Install knives on correct discs.
	PTO speed too slow.	Maintain rpm on the tractor PTO. (Do not overspeed.)
	Cutting too high.	Remove high stubble kit, if installed. Increase header tilt.
	Header flotation too light.	Increase the header weight to keep the header in better ground contact.
Excessive breakage of the knives.	Wheel arm linkage binding.	Remove, clean and lubricate wheel arm pin.
	Cutting too low in stony conditions.	Raise the cutting height with header tilt. Install high stubble kit.
	Ground speed too high in stony conditions.	Adjust the flotation springs to float the header with 45.4 kg (100 lb) force, per side.
Not cutting short enough in down material.	Ground speed too fast.	Reduce ground speed.
	Broken, bent, or dull knives.	Replace the knives or turn over the knives.
	Cutting height too high.	Lower the cutting height by tilting the header.
	Tractor PTO speed too slow.	Maintain tractor PTO rpm. (Do not overspeed.)
Strip of run-down, uncut material.	Ground speed too fast.	Use slower ground speed.
	Crowding of the uncut material.	Do not crowd the uncut material.
	Missing or dull knives.	Replace or turn over the knives.
		Clean off cutter bar. Tilt cutter bar back towards horizontal to reduce material buildup.
Forming poor or bumpy windrow.	Tractor PTO speed too slow.	Maintain rpm on the tractor PTO. (Do not overspeed.)
	Incorrect swath gate adjustment.	Adjust the swath gate to even discharge flow.
	Incorrect windrow shield adjustment.	Adjust the windrow shields.
Pulling material out of the ground when cutting back swath or tall material is leaning into the machine. Excessive power requirements.	Excessive roll pressure.	Reduce roll pressure or increase roll clearance.
	Ground speed too slow.	Ground speed too slow.
Soil buildup on front of cutter bar.	Very wet crop conditions.	Adjust flotation springs to reduce header flotation weight. Raise the cutting height with header tilt. Install high stubble kit.
Crop stems not scuffed. (Flail conditioner model only)	Under conditioning.	Lower rotor hood or install dimpled hood liner and high speed rotor.

6 - TROUBLESHOOTING

Problem	Possible Cause	Correction
Cutter bar does not turn easily by hand.	Buildup of dirt or twine under discs.	Remove disc and disc hub if necessary to clear debris.
Module oil level low.	Top cap seal failure from melted twine.	Remove twine and replace top cap seal.
	Seal failure on input shaft.	Replace seal.

7 - SPECIFICATIONS

General specifications - Roll conditioning disc mower conditioner

	Standard Tongue	Swivel Hitch Tongue
Overall Width		
Transport position	4000 mm (13 ft 3 in)	4000 mm (13 ft 3 in)
Field position	5791 mm (19 ft 0 in)	6274 mm (20 ft 7 in)
Overall Length		
Transport position	7925 mm (26 ft 0 in)	8484 mm (27 ft 10 in)
Field position	6375 mm (20 ft 11 in)	6934 mm (22 ft 9 in)
Height		
Transport position	2032 mm (6 ft 8 in)	2032 mm (6 ft 8 in)
Field position	1676 mm (5 ft 6 in)	1676 mm (5 ft 6 in)
Ground Clearance		
	457 mm (18 in)	457 mm (18 in)
Wheel Tread Width		
	3772 mm (148.5 in)	3772 mm (148.5 in)
Weight		
	2557 kg (5600 lb)	2694 kg (5900 lb)
Driveline		
Tractor Requirement	67 kW (90 Hp) or greater with standard category 2 or 3 ASAE hitch and PTO locations. Two remote hydraulic circuits capable of 104 bar (1500 psi)	
Input Speed	1000 RPM only	
Drive	1000 RPM PTO with slip clutch, enclosed gears and three HB banded belts with spring loaded idlers	
Quick Hitch Bushing Kit	NH #HF141130DS	
Header		
Cutting Width	3906 mm (13 ft 0 in)	
Flotation	Vertical & radial	
Windrow Width	914 - 2438 mm (36.0 - 96.0 in)	
Header Lift	Hydraulic (master-slave system)	
Cutter Bar		
Type	Modular	
No. of Discs	8 counter-rotating, 2 co-rotating	
Knives per Disc	2	
Disc Cutting Diameter	500 mm (19.7 in)	
Disc Drive	Bevel gears in sealed modules	
Disc Speed	3000 RPM	
Cutting Height	32 - 83 mm (1.25 - 3.275 in)	
Cutter Bar Angle	-2 ° to -10 °	
Conditioner		
Type	Intermeshing rolls	
Drive	4HB V belt, enclosed gears with U-joint drives to upper & lower rolls	

7 - SPECIFICATIONS

Rolls	
Type	Rubber or steel with intermeshing chevron design
Length	2591 mm (102 in)
Diameter	264 mm (10.38 in)
Speed	640 RPM
Operating Speed	
	0 - 14 km/h (0 - 9 mph)
Transport Speed	
	32 km/h (20 mph) maximum
Capacity	
	3.06 H/hr (7.56 A/hr) @ 10 kph (6 mph) & 80 % field efficiency
Tire	
	31.5 x 13.5L x 15, 8 ply tubeless agricultural rib implement tire
Tire Pressure	
	207 kPa (30 psi)
Jack	
	2000 lb capacity side-wind
Tongue Shift	
	Hydraulic

General specifications - Flail conditioning disc mower conditioner

	Standard Tongue	Swivel Hitch Tongue
Overall Width		
Transport position	4000 mm (13 ft 3 in)	4000 mm (13 ft 3 in)
Field position	5791 mm (19 ft 0 in)	6274 mm (20 ft 7 in)
Overall Length		
Transport position	8052 mm (26 ft 5 in)	8611 mm (28 ft 0 in)
Field position	6502 mm (21 ft 4 in)	7061 mm (23 ft 2 in)
Height		
Transport position	2184 mm (7 ft 2 in)	2184 mm (7 ft 2 in)
Field position	1829 mm (6 ft 0 in)	1803 mm (5 ft 11 in)
Ground Clearance		
	406 mm (16 in)	406 mm (16 in)
Wheel Tread Width		
	3772 mm (148.5 in)	3772 mm (148.5 in)
Weight		
	2582 kg (5655 lb)	2719 kg (5955 lb)
Driveline		
Tractor Requirement	67 kW (90 Hp) or greater with standard category 2 or 3 ASAE hitch and PTO locations. Two remote hydraulic circuits capable of 104 bar (1500 psi)	
Input Speed	1000 RPM only	
Drive	1000 RPM PTO with slip clutch, enclosed gears and three HB banded belts with spring loaded idlers	
Header		
Cutting Width	3906 mm (13 ft 0 in)	
Flotation	Vertical & radial	
Windrow Width	914 - 2438 mm (36.0 - 96.0 in)	
Header Lift	Hydraulic (master-slave system)	
Cutter Bar		
Type	Modular	
No. of Discs	8 counter-rotating, 2 co-rotating	
Knives per Disc	2	
Disc Cutting Diameter	500 mm (19.7 in)	
Disc Drive	Bevel gears in sealed modules	
Disc Speed	3000 RPM	
Cutting Height	32 - 83 mm (1.25 - 3.275 in)	
Cutter Bar Angle	-2 ° to -10 °	
Conditioner		
Type	Flail	
Drive	4HB V belt, enclosed gears with U-joint drives to rotor	
Rotor		
Length	2591 mm (102 in)	
Diameter	560 mm (22 in)	
Speed	1011 RPM (726 RPM optional)	
Operating Speed		
	0 - 14 km/h (0 - 9 mph)	

7 - SPECIFICATIONS

Transport Speed	32 km/h (20 mph) maximum
Capacity	3.06 H/hr (7.56 A/hr) @ 10 kph (6 mph) & 80 % field efficiency
Tire	31.5 x 13.5L x 15, 8 ply tubeless agricultural rib implement tire
Tire Pressure	207 kPa (30 psi)
Jack	2000 lb capacity side-wind
Tongue Shift	Hydraulic

8 - ACCESSORIES

Disc knives

Several disc mower-conditioner knives are available through Service Parts. Each type of knife is designed to function well in specific crop and field conditions. Contact your authorized dealer for the disc mower-conditioner knife that will work best in your conditions.

7 degree twist knives

The 7 degree twist knives (1) are recommended for abrasive soil or crop cutting conditions. These knives function well in a wide range of field and cutting conditions.

14 degree twist knives

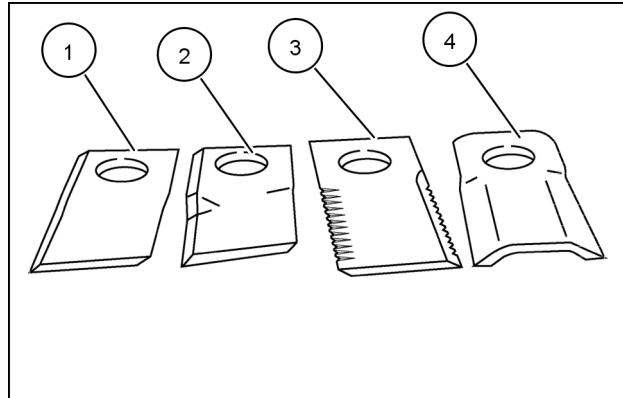
The 14 degree twist knives (2) are recommended in most crop conditions. A greater knife twist angle enables the knife's cutting edge to cut closer to the ground while providing more lifting action to move the crop over the cutter bar into the conditioner, producing a cleaner cut in most light crop conditions. However, because of the greater twist angle of the knife, these knives are more susceptible to rock damage. All disc mower-conditioners are shipped with these knives from the plant.

14 degree twist serrated knives

The 14 degree knife is also available in a serrated version (3). The serrated knife will last longer and is more aggressive. It works well in sudan and grass seed.

V knives

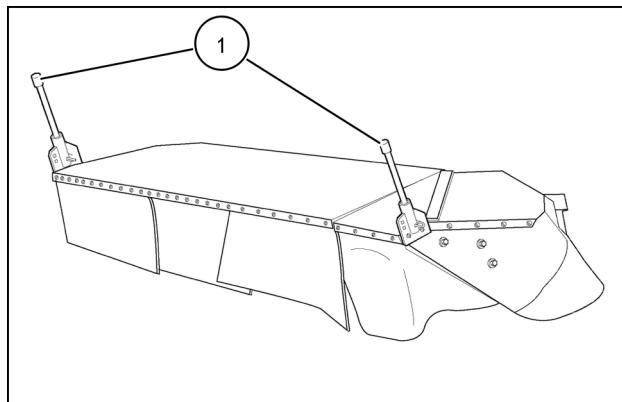
The V knives (4) are recommended in rocky conditions where excessive knife bending is a concern. The V knife is to be installed with the concave side facing downward. This style knife has a greater resistance to bending when coming in contact with a foreign object. The cutting quality of this knife is not as good as with the twisted knives and will deteriorate with knife wear. However, they are more resistant to bending in rocky field conditions.



76075992N 1

Corner marker kit

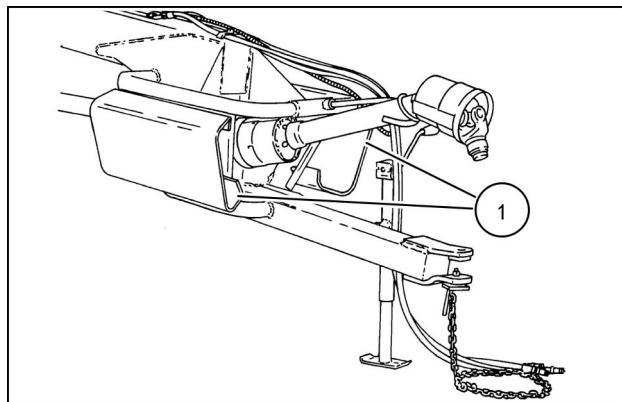
The corner marker kit consists of two flexible marker posts (1) that bolt onto the front corners of the header. These provide the operator with a clear view of the location of the front corners of the header during operation. The header markers also provide a mounting location for flags that may be used when transporting the disc header on public roads. Flags may be purchased locally.



36082803N 1

Bumper extensions (standard tongue only)

Bumper extensions (1) are required to limit the turn angle between the tractor and the pivot tongue disc mower-conditioner on tractors where the drawbar extends more than **305 mm (12 in)** behind the rear tractor tires (when set at **609 mm (24 in)** from end of tractor PTO shaft), to prevent bottoming out the primary PTO **80 °** CV joint causing failure.

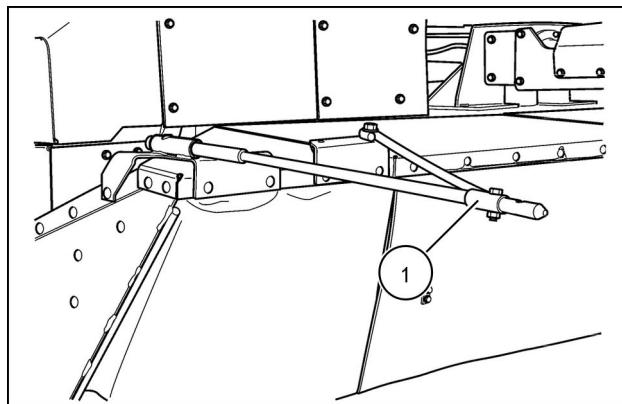


4896-03N 1

Crop divider

The crop divider kit adds a crop divider on both sides of the header.

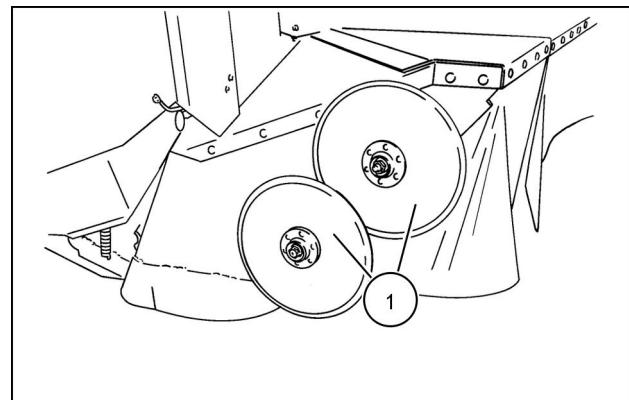
Crop dividers (1) deflect material toward the center of the header to ensure that the entire crop passes through the header.



10032251N 1

Crop divider

The rolling crop dividers (**1**) are a set of disc coulters that can be installed onto the outer shrouds of the header to aid in crop feeding and to prevent the bulldozing of crop material. The disc coulters allow tangled, matted crop, or loose crop material, (i.e., discharge from a combine) to roll under the shroud and then be cut by the cutter bar knives. The disc and mounting plates are available through Service Parts.

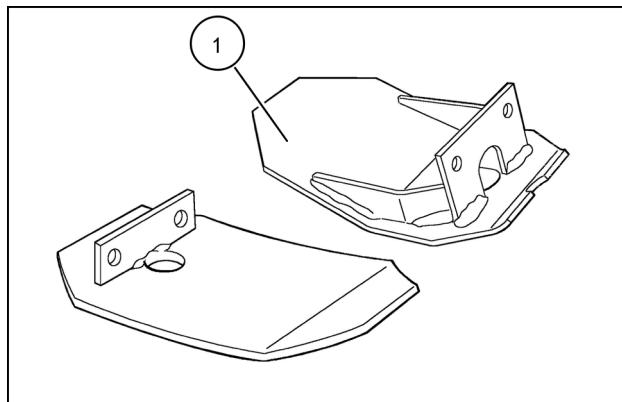


19995657N 1

High stubble kit

The high stubble kit is intended to provide a higher cutting height for clipping pastures, or for crops where a higher stubble height is desirable. Cutting height is approximately **127 mm (5 in)** at 2 degrees cutter bar tilt to approximately **89 mm (3 1/2 in)** at 10 degrees cutter bar tilt.

The high stubble kit consists of eight high skid shoes (1). All eight skid shoes should be installed to minimize shoe wear and provide proper flotation of the cutter bar.



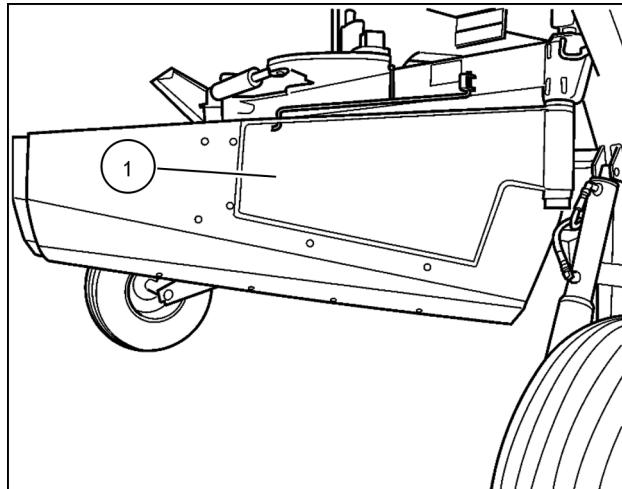
50013303N 1

Windrow shield extensions

The Windrow shield extensions (1) are intended to provide an improved windrow formation for crops that are either extra heavy or extra light (RH extension shown).

The Windrow shield extensions ensures heavy or light crop exiting the roll conditioner is placed in a neat, straight windrow.

The Windrow shield extensions consists of left hand and right hand extension along with necessary mounting hardware.



10054143 1

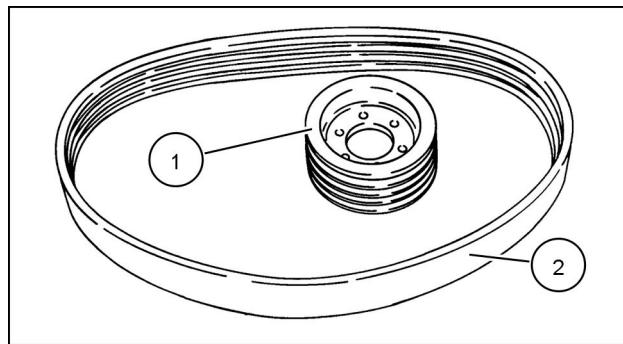
Low speed rotor kit

Low speed rotor kit - Flail conditioner model only

The low speed rotor kit is available for less aggressive conditioning. A larger sheave and a 4HB banded V-belt enable the rotor and flails to rotate at a slower rate of speed. The standard rotor speed is **1011 RPM**. The low speed rotor kit will decrease the rotor to **726 RPM**.

The contents of the kit are shown.

- (1) Sheave
- (2) HB banded belt

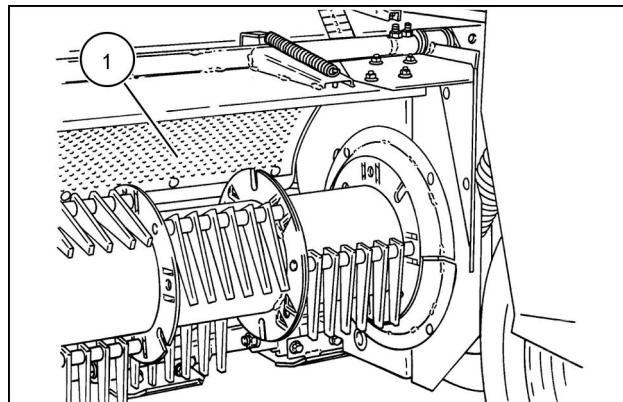


19982121N 1

Dimpled hood liner

- Flail conditioning model only

The dimpled hood liner kit is available for more aggressive crop conditioning. The standard smooth hood liner (1) must be removed prior to installing the dimpled hood liner. This kit includes two dimpled hood liner sections and the appropriate hardware to install the liner sections.



19982130N 1

Truck hitch (swivel hitch tongue)

▲ DANGER

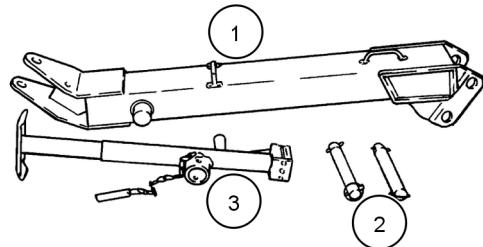
Loss of control hazard!

Make sure you use a towing vehicle with adequate weight. Towing with an underweight vehicle could cause a loss of control during transport or braking. Calculate the minimum towing vehicle weight required as instructed in this manual.

Failure to comply will result in death or serious injury.

D0049A

A truck hitch is available for use with the disc mower-conditioner equipped with the swivel hitch tongue. This will allow towing of the swivel hitch disc mower-conditioner with a suitably sized truck. The truck hitch (1) includes two clevis pins with linchpins (2), a safety chain and attaching hardware (not shown), and a side wind-style jack (3).



97-1551N 1

9 - FORMS AND DECLARATIONS

Delivery report - Owner Copy

Delivery Date	<hr/>		
Owner's Name	<hr/>		
Address	<hr/>		
Dealer's Name	<hr/>		
Address	<hr/>		
Unit:	Model	Product Identification Number	<hr/>
Engine:	Model	Product Identification Number	<hr/>
Attachment:	Model	Product Identification Number	<hr/>
	Model	Product Identification Number	<hr/>
	Model	Product Identification Number	<hr/>

Using the operator's manual as a guide, instruction was given as indicated by the check marks.

- Safety precautions and practice
- Lubrication points and schedule
- Maintenance areas, adjustments, and schedule
- Field adjustments for various crop conditions
- Operation
- Use of optional equipment
- Preseason service
- End-of-season service
- Proper use of operator's manual
- Customer given operator's manual
- All safety shielding is installed

Dealer Representative's Signature

"I have been instructed in the operation, maintenance, and safety features of this machine as detailed in the operator's manual."

Owner's Signature

Delivery report - Dealer Copy

Delivery Date	<hr/>		
Owner's Name	<hr/>		
Address	<hr/>		
Dealer's Name	<hr/>		
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Unit:	Model	Product Identification Number	<hr/>
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- Customer given operator's manual
- All safety shielding is installed

Dealer Representative's Signature

"I have been instructed in the operation, maintenance, and safety features of this machine as detailed in the operator's manual."

Owner's Signature

Service record - 1st 50 Hour, Customer Copy

CHECK AND ADJUST, AS REQUIRED

1. Perform 50 hour grease zerk service	<input type="checkbox"/>	9. Check hydraulic oil level	<input type="checkbox"/>
2. Check wheel nut and torques	<input type="checkbox"/>	10. Check all chain and belt tensions	<input type="checkbox"/>
3. Check steering ball joints	<input type="checkbox"/>	11. Lubricate all chains	<input type="checkbox"/>
4. Check/clean air conditioning condensor	<input type="checkbox"/>	12. Check coolant level (shunt tank)	<input type="checkbox"/>
5. Check tire pressure	<input type="checkbox"/>	13. Check brake fluid level	<input type="checkbox"/>
6. Check electrolyte level in batteries	<input type="checkbox"/>	14. Clean cab air filter	<input type="checkbox"/>
7. Check engine oil level	<input type="checkbox"/>	15. Check fuel level	<input type="checkbox"/>
8. Check PTO gearbox oil level	<input type="checkbox"/>	16. Drain water from fuel system prefilter/water separator	<input type="checkbox"/>

THE INSPECTION HAS BEEN MADE

MACHINE MODEL NO: _____ MACHINE SERIAL NO: _____

OWNER SIGNATURE: _____ DEALER SIGNATURE: _____

DATE: _____ DATE: _____

Service record - 1st 50 Hour, Dealer Copy

CHECK AND ADJUST, AS REQUIRED

1. Perform 50 hour grease zerk service	<input type="checkbox"/>	9. Check hydraulic oil level	<input type="checkbox"/>
2. Check wheel nut and torques	<input type="checkbox"/>	10. Check all chain and belt tensions	<input type="checkbox"/>
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THE INSPECTION HAS BEEN MADE

MACHINE MODEL NO: _____ MACHINE SERIAL NO: _____
OWNER SIGNATURE: _____ DEALER SIGNATURE: _____
DATE: _____ DATE: _____

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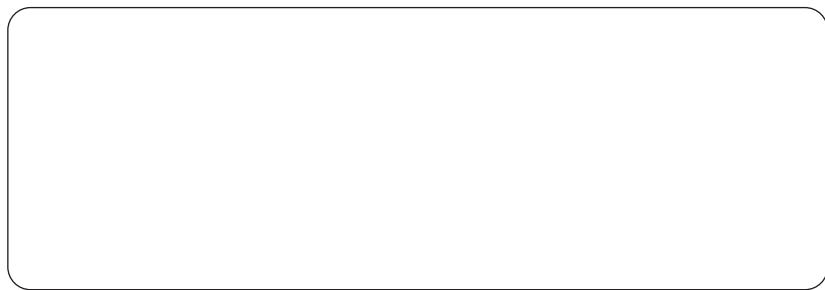
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Dealer's stamp



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Specifications, descriptions, and illustrative material herein are as accurate as known at time of publication, but are subject to change without notice.

Availability of some models and equipment builds varies according to the country in which the equipment is being used. For exact information about any particular product, please consult your New Holland dealer.



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